July 1959

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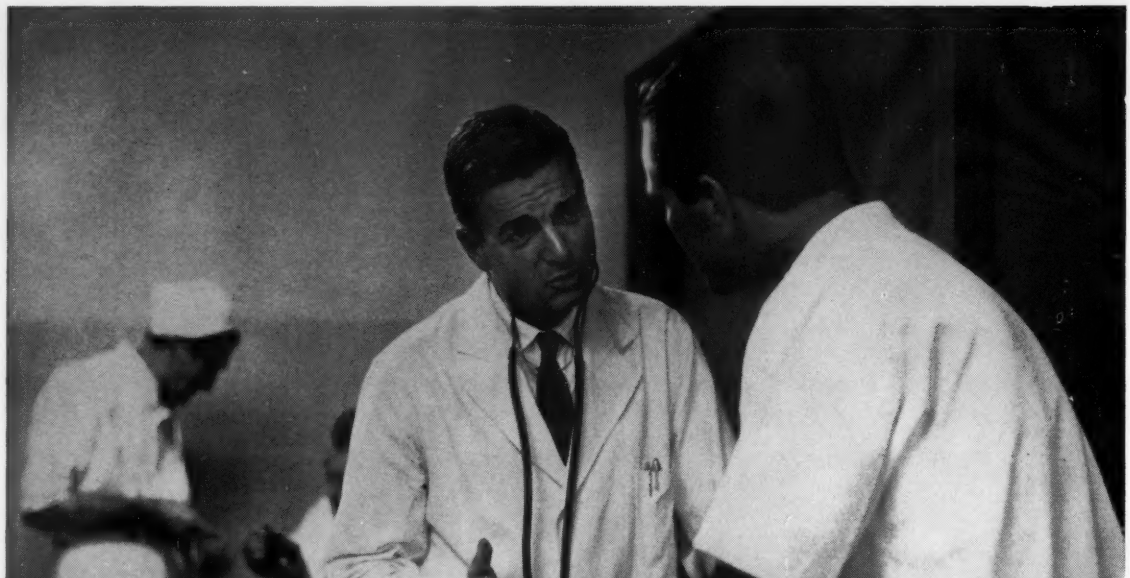

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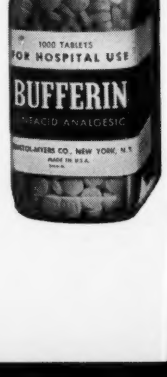

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HOSPITAL MANAGEMENT is published on the fifteenth of each month at 105 West Adams St., Chicago 3, Illinois, by Hospital Management, Inc. Telephone: ANdover 3-1800

HOSPITAL MANAGEMENT is a member of the Audit Bureau of Circulations and Associated Business Papers, Inc.
Subscription rates: $4.00 a year in the United States, U. S. Territories and Canada. Foreign, including Pan American: $7.00 a year. Current single copies, 50 cents; back copies, $1.00. CHANGE OF ADDRESS should reach us at least two weeks in advance of date of change. Entered as second-class matter May 14, 1917, at postoffice, Chicago, Ill., under the act of March 3, 1879. Additional entry, Mendota, Ill. **Copyright 1959 by Hospital Management.**

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Small Hospital's Clinic

Chain of Command

by William A. Kozma

Administrator
Long Beach Memorial Hospital
Long Beach, N. Y.

■ ONCE UPON A TIME, in the typical hospital, the administrator was in complete command of every facet of the hospital operation. In time, with the rapid development of hospitals, such centralization of authority became impractical. With growth came specialization in many hospital departments. People were being trained not only in the professional aspects of their work, but also in the administrative responsibilities of departmental management. The hospital organizational structure was developing, and pathways of command and responsibility had to be developed. A chain of command, fairly well defined, became a necessity. This chain of command runs from the governing board to the administrator and begins to fan out to assistants, department heads, and subordinate supervisors. It can add immeasurably to management's task to know where each stands and eliminates much confusion in the complex structure of a typical hospital organization. Clearly defined lines of authority with specific understanding of the flow of command, both up and down the chain, can lead to better understanding and smoother working relationships among employees.

The Board of Directors is the first link on the chain, and they place the burden of management on the administrator, where it should be. However, when a loosely knit association of men governs a complex organization, innumerable problems of authority, specialization and definition are created.[1] Often board members tend to limit the authority of the administrator and to overstep their own lines of authority. The governing board should grant him executive authority and thereby relinquish the right to deal directly with any other person or department in the hospital. The line of procedure lies in direct contact with the administrator.[2]

Administrators are engaged primarily to represent the rights of the board of directors, the doctors, the employees and the community at large. They carry out policy and direct and regulate the course of the hospital in its daily operation. Good administration leads to decisions that result in positive action with little demand on the board of directors. The influence of the board of directors can be too great in the daily routine of hospital business and with the development of hospital administration as a profession this influence should diminish to guidance and basic policy matters.

The administrator should be held responsible for the proper balance of all phases of the hospital's operation and should delegate the actual work to others. His main task is to provide the means and direction to accomplish the work and to hold responsible those to whom he has delegated completion of tasks. An administrator kept too busy with details has no time to devote to major problems or for creative thinking. He must try to get the best people to take the key positions in the hospital so that he can devote time to develop hospital policy and direct the proper growth of the institution. However, there still remains the board of directors who sometimes expect the administrator to be a "Jack of all trades" and, more unfortunately, there are administrators who try to assume such a role. Progress can best continue only if the administrator can divide his tasks among supervisory personnel.

The assistant or department heads next in the line of command must be given prestige and the full

For more information, use yellow postcard inside back cover.

support of the administrator. Proper direction and assistance, when and how necessary, must always be available. Each person must know exactly what is expected of him and should also have a strong feeling that he has the authority he needs to get it done.[3] Interference with such personnel will lead to a diminishing return from the efficiency of the assistant. A sympathetic ear must be bent in the direction of all department heads in order to determine means of solving problems. This requires close contact with such people and a sincerity of desire to work with them.

Such procedure must continue on down the ladder to subordinate supervisors, their key people, and so on, until each position in the chain has an idea of the flow of direction. Care must be taken that in delegating work down the line that adequate explanation accompany the delegation. In addition, responsibility for getting the results desired must also be passed along. The description of the results expected should point up the horizons. They should point up over all limits, but provide as broad a latitude as possible in getting results. They should allow a man to strive to the very limit of his capacity to do the best job he can.[4] Overlapping of command or responsibility can be discouraging and lead to confusion, as can by-passing any individual occupying a key position in the chain of command.

Development of a specific organizational chart to outline the line of authority is important. Whether this be a straight line, staff, or a line and staff type organization depends on the desires of the management. In small hospitals personal intimacy may be a deterring factor to specific lines of authority. In large organizations specific lines will lead to greater efficiency once the lines are set up and the organization defined. Responsibility and accountability at the various levels must be explained to key personnel, not for each detail of the job, but for the over-all job expected. This is part of the responsibility at important points on the command chain.

People to whom responsibility has been delegated should be subject to control. Good controls in an organization can have definite benefits by relieving management of excessive checking on subordinates. Administrative control can be maintained through the lines of author-

Please turn to page 19

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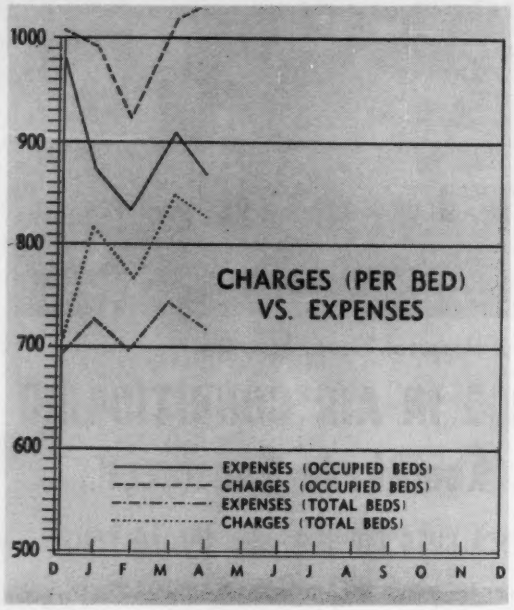


■ REMARKABLY LITTLE operational research work is being done in hospital accounting. Last month we asked our sample, how many had conducted any kind of an analysis of time required and cost of doing a certain job in the hospital. The replies were disappointing. Only 10 percent of the entire sample reported doing any such operational research.

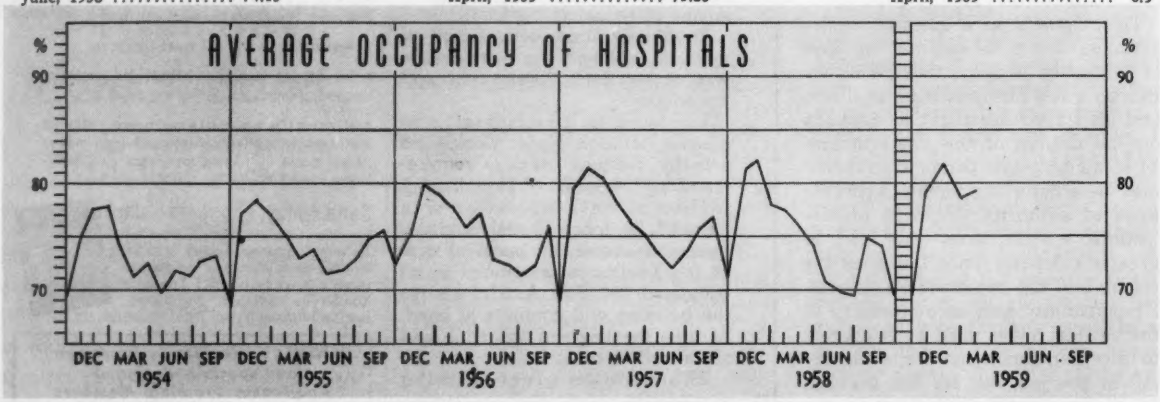
Of those who reported affirmatively, the most frequent analysis was on medical records and the least frequent was on the cost of serving food. Some hospitals reported several projects being performed simultaneously. The projects ranged all over the hospital and covered such items as housekeeping operations, nursing service, processing of gloves, laboratory operations, outpatient service, disposable syringes, verticle conveyors and office duplicating units. ■

Average Monthly Occupancy
(on 100 percent basis)

September, 1957	73.41
October, 1957	75.36
November, 1957	76.62
December, 1957	71.31
January, 1958	80.98
February, 1958	81.97
March, 1958	77.84
April, 1958	77.20
May, 1958	76.10
June, 1958	74.15
July, 1958	70.78
August, 1958	70.01
September, 1958	69.69
October, 1958	74.99
November, 1958	74.30
December, 1958	69.45
January, 1959	79.00
February, 1959	81.42
March, 1959	78.94
April, 1959	79.25

Average Length of Patient Stay
(in days)

June, 1958	6.3
July, 1958	6.5
August, 1958	6.6
September, 1958	6.6
October, 1958	6.8
November, 1958	7.0
December, 1958	6.8
January, 1959	7.1
February, 1959	7.2
March, 1959	6.8
April, 1959	6.9



Average Operating Expenses
Per Occupied Bed Per Month

October, 1957	848.22
November, 1957	823.20
December, 1957	893.31
January, 1958	811.72
February, 1958	788.06
March, 1958	896.46
April, 1958	862.87
May, 1958	885.02
June, 1958	888.85
July, 1958	945.39
August, 1958	948.40
September, 1958	929.24
October, 1958	944.18
November, 1958	897.07
December, 1958	979.27
January, 1959	873.70
February, 1959	833.68
March, 1959	903.46
April, 1959	867.97

Average Patient Charges
Per Occupied Bed Per Month

October, 1957	926.28
November, 1957	874.64
December, 1957	925.98
January, 1958	918.10
February, 1958	862.21
March, 1958	1003.77
April, 1958	950.00
May, 1958	971.78
June, 1958	960.07
July, 1958	1002.61
August, 1958	999.23
September, 1958	972.16
October, 1958	1020.53
November, 1958	946.90
December, 1958	1002.51
January, 1959	992.15
February, 1959	924.74
March, 1959	1035.52
April, 1959	1034.43

Average Operating Expenses
Per Bed Per Month (Total Beds)

October, 1957	646.16
November, 1957	641.89
December, 1957	660.84
January, 1958	675.67
February, 1958	665.96
March, 1958	700.18
April, 1958	678.17
May, 1958	686.88
June, 1958	666.07
July, 1958	676.46
August, 1958	677.66
September, 1958	652.33
October, 1958	725.25
November, 1958	678.97
December, 1958	695.15
January, 1959	728.91
February, 1959	697.25
March, 1959	747.24
April, 1959	714.10

Average Patient Charge Per
Bed Per Month (Total Beds)

October, 1957	705.02
November, 1957	682.03
December, 1957	680.84
January, 1958	761.39
February, 1958	727.50
March, 1958	784.75
April, 1958	743.49
May, 1958	754.21
June, 1958	719.44
July, 1958	717.40
August, 1958	711.1
September, 1958	679.01
October, 1958	780.03
November, 1958	714.10
December, 1958	709.37
January, 1959	814.98
February, 1959	769.30
March, 1959	846.19
April, 1959	824.37

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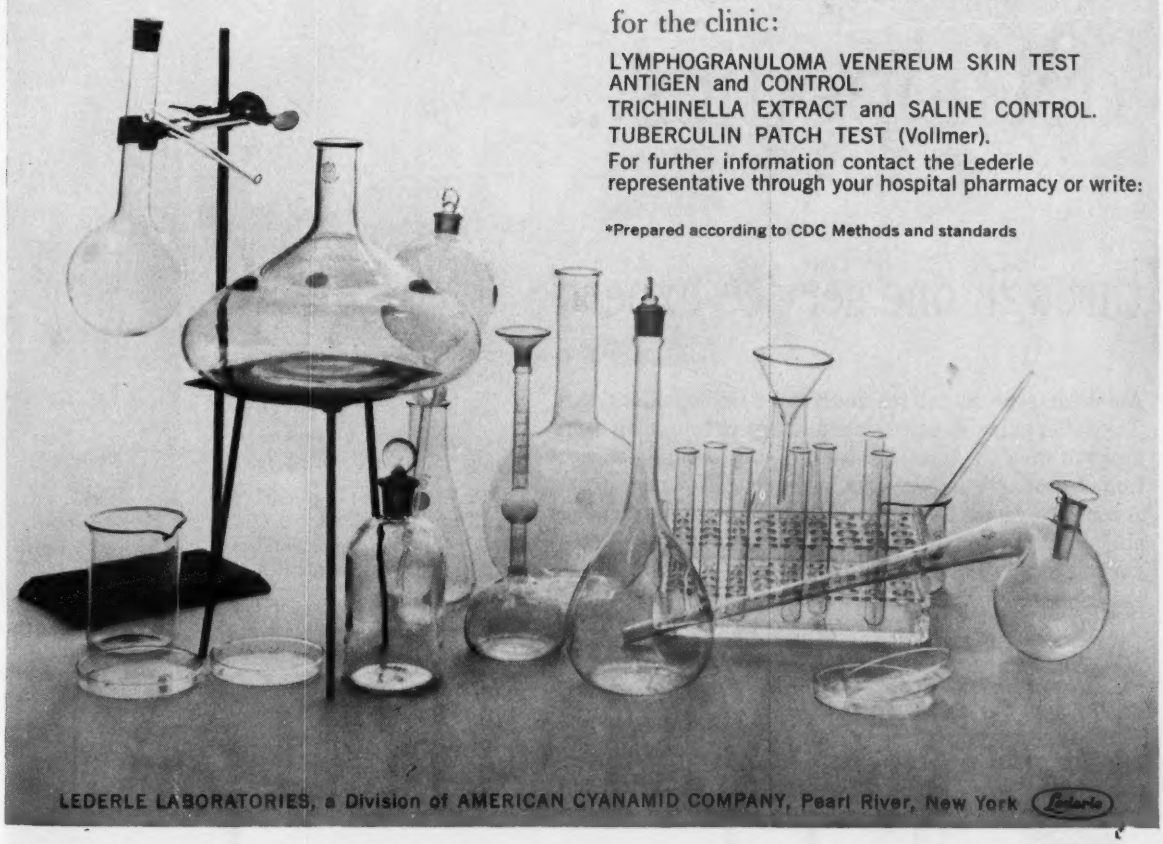

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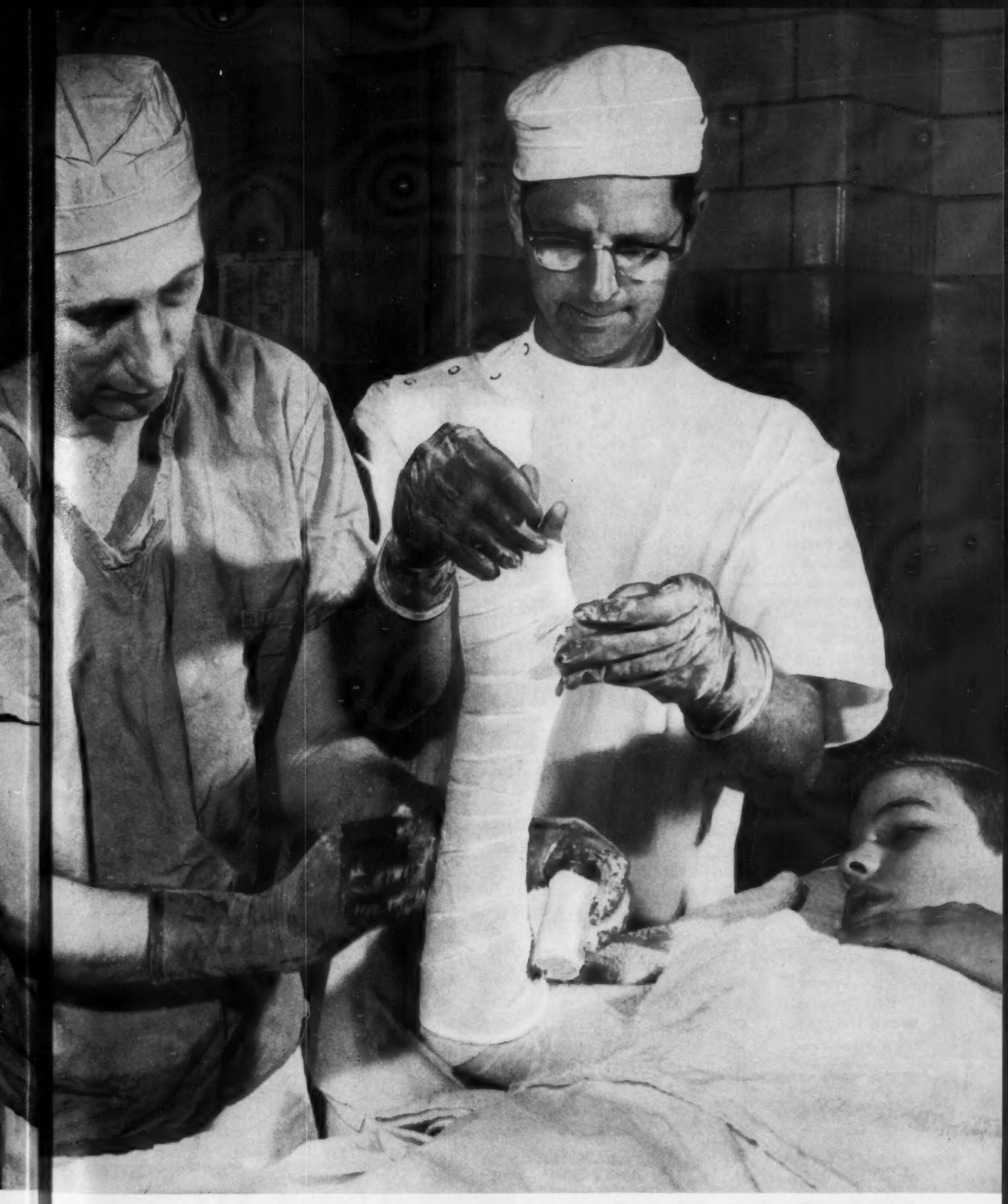

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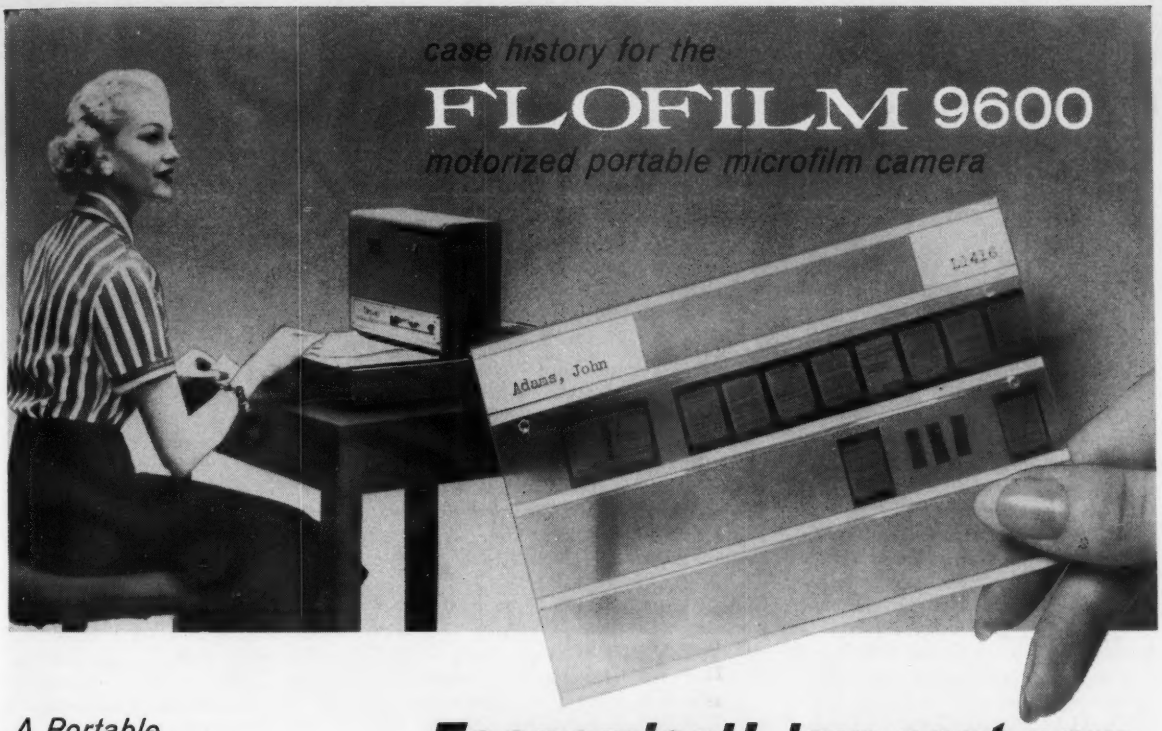
May 1959 Regional How's Business Report

REGION →	NEW ENGLAND Connecticut, Maine, Mass., N. H., R. I., Vermont			MIDDLE ATLANTIC New Jersey, New York Pennsylvania			SOUTH ATLANTIC Del., Fla., Ga., Md., N. C., S. C., Va., W. Va., D. C.			SOUTH CENTRAL Ala., Ky., Miss., Tenn., Ark., La., Okla., Texas		
NO. OF BEDS	1-100	101-225	226-up	1-100	101-225	226-up	1-100	101-225	226-up	1-100	101-225	226-up
AV. No. OF ADULT PATIENT DAYS	1,358	4,051	11,467	1,097	4,402	10,238	1,574	3,743	9,016	1,633	3,685	9,050
% of OCCUPANCY	79.42	86.88	90.70	73.36	86.47	89.01	75.24	84.42	80.03	74.40	75.44	77.40
EXPENSES BY DEPTS. Per Patient Day												
Administration	3.59	4.93	4.42	3.29	2.61	3.73	2.69	2.76	3.13	3.21	3.01	3.56
Dietary	3.54	4.53	3.89	3.25	3.17	3.48	2.97	3.17	3.37	2.86	3.29	3.66
Housekeeping	1.50	1.87	1.84	.93	1.07	1.30	1.03	.92	1.13	1.03	1.29	1.34
Laundry	.76	.66	.55	.67	.51	.55	.63	.59	.69	.67	.52	.51
Plant Operation	2.26	2.52	2.20	1.99	1.59	1.83	1.52	1.33	1.85	1.76	1.62	1.73
Medical & Surgical	.65	1.78	2.16	1.20	1.15	1.71	1.23	1.34	1.86	1.41	1.51	2.41
O. R. & Del. Rms.	2.16	2.30	1.79	1.31	1.33	1.34	1.41	1.54	2.17	2.28	1.67	2.37
Pharmacy	1.39	1.33	1.18	1.31	1.20	1.29	1.56	1.28	1.53	2.21	2.10	1.93
Nursing	8.01	8.38	6.45	6.60	6.11	6.11	6.38	5.70	6.48	5.82	7.26	6.44
Anesthesia	.84	1.09	.52	.63	.39	.74	.70	.51	.34	.60	.47	1.03
Laboratory	1.60	2.53	2.32	1.30	1.56	1.79	1.61	1.61	2.17	2.10	2.31	3.01
X-ray	2.03	2.22	1.22	1.56	1.44	1.38	1.75	1.26	1.55	1.41	1.32	1.78
Other expenses	1.58	.64	1.66	.28	.69	1.09	.65	.69	2.12	.92	1.01	1.39
TOTAL EXPENSES	38,921	142,255	353,231	25,645	100,833	275,963	37,336	86,196	261,591	41,761	102,439	287,532
TOTAL CHARGES TO PATIENTS	41,360	158,307	386,368	28,765	126,979	343,606	41,371	99,617	286,023	45,143	106,924	329,755
OPERATING INCOME PER PATIENT DAY	30.46	39.08	33.69	26.22	28.85	33.56	26.28	26.61	31.72	27.64	29.02	36.44
OPERATING EXPENSES PER PATIENT DAY	28.66	35.12	30.80	23.38	22.91	26.95	23.72	23.03	29.01	25.57	27.80	31.77

REGION →	EAST NORTH CENTRAL Illinois, Indiana, Michigan, Ohio, Wisconsin			WEST NORTH CENTRAL Kans., Iowa, Minn., Neb., N. D., S. D., Mo.			MOUNTAIN STATES Ariz., Colo., Idaho, Mont., Nev., N. M., Utah, Wyo.			PACIFIC COAST California, Oregon, Washington		
NO. OF BEDS	1-100	101-225	226-up	1-100	101-225	226-up	1-100	101-225	226-up	1-100	101-225	226-up
AV. No. OF ADULT PATIENT DAYS	1,368	3,751	8,584	996	3,911	8,186	1,421	3,124	8,155	1,128	3,472	8,506
% of OCCUPANCY	75.49	81.90	88.39	65.60	82.83	86.23	67.11	72.31	91.06	65.28	74.53	78.49
EXPENSES BY DEPTS. Per Patient Day												
Administration	3.24	3.60	3.88	2.22	2.47	2.88	3.00	3.48	3.48	4.83	5.35	3.97
Dietary	3.20	3.32	3.66	2.79	3.28	3.02	3.02	3.61	3.66	4.88	4.55	3.44
Housekeeping	1.14	1.28	1.66	.84	1.11	1.41	.88	1.38	1.44	2.03	2.18	1.53
Laundry	.69	.64	.63	.62	.60	.56	.73	.71	.60	1.29	.97	.75
Plant Operation	1.78	1.82	2.18	1.46	1.59	1.74	1.46	1.64	1.64	2.56	2.17	1.86
Medical & Surgical	1.60	1.76	2.49	1.33	2.57	1.61	3.96	1.51	2.04	3.77	1.75	2.32
O. R. & Del. Rms.	1.28	1.66	1.77	1.06	1.99	2.17	2.12	3.10	2.12	3.63	3.30	2.91
Pharmacy	1.35	1.58	1.33	1.51	1.45	1.47	2.19	2.23	1.71	1.89	2.36	1.67
Nursing	6.97	7.27	6.63	6.92	5.62	5.77	6.41	9.49	7.44	9.30	11.10	9.53
Anesthesia	.57	.58	.35	.62	.31	.36	.71	.93	.25	1.02	.80	.50
Laboratory	1.46	2.29	2.08	1.13	1.50	2.24	1.76	3.22	1.95	3.28	2.92	2.57
X-ray	1.70	1.78	1.65	1.05	1.46	1.71	1.69	2.18	1.48	2.42	2.35	1.73
Other expenses	.29	.44	1.34	.37	.57	.66	.71	.27	1.26	.42	.76	.98
TOTAL EXPENSES	32,804	104,484	258,049	20,602	96,215	214,836	31,995	105,579	233,865	45,027	140,821	293,867
TOTAL CHARGES TO PATIENTS	37,355	115,594	396,004	22,436	104,775	256,041	35,409	115,170	247,997	47,349	150,296	336,703
OPERATING INCOME PER PATIENT DAY	27.31	30.82	46.13	22.53	26.79	31.28	24.92	36.87	30.41	41.98	43.29	39.58
OPERATING EXPENSES PER PATIENT DAY	23.98	27.86	30.06	20.68	24.60	26.24	22.52	33.80	28.68	39.92	40.56	34.55



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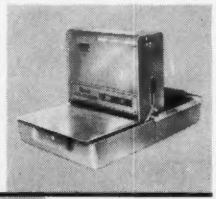

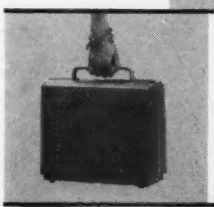

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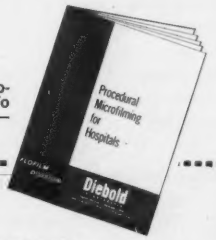

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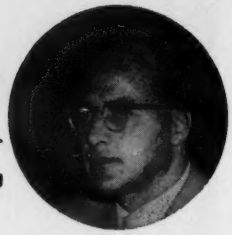
Consulting

with Dr. Letourneau



Transfer of Patients

QUESTION: *Whenever we have an occasion to transfer a patient from medicine to surgery or from surgery to another service, we officially discharge the patient from the first service and readmit him to the second service with a readmission number. Recently a consultant told us that this was a lot of unnecessary administrative work, and that it inflates our admission and discharge figures unrealistically. Could you advise us if this procedure is correct or whether some other method should be followed?*

ANSWER: The procedure you are following is undoubtedly cumbersome. You should not record separate admissions and discharges for simple transfers between departments in your hospital. An admission should represent an entrance by the patient into the hospital and a discharge should represent an exit of the patient from the hospital. I would recommend that you convert to the unit system of medical records, whereby each patient in your community is given a single number regardless of the number of times that he is admitted.

If each service records separately the number of patient days which it has given, then a definite set of rules will have to be established concerning half days and partial days. Otherwise there will be a disagreement between the number of days reported by the various departments and the number of days reported by the hospital.

Book on Control of Infections

QUESTION: *Can you recommend a book which might help our committee on infection control?*

ANSWER: The public Health Service of the U. S. Department of Health, Education and Welfare published an excellent document called *"Environmental Aspects of Staphylococcal Disease"* in January 1959. It is known as P. H. S. publication number 646 and is for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C.

Records for Research

QUESTION: *What is the procedure for transferring medical records out of the medical record department to another department of the hospital for research purposes?*

ANSWER: The transfer should be approved by the administration of the hospital upon the recommendations of the medcial records committee of the medical staff. When this approval has been granted, the medical records should be signed out to the individual responsible for the research.

Time in Labor Room

QUESTION: *Can days spent in the labor room be counted as obstetrical patient days for such purposes as determining percentage of occupancy and average day stay?*

ANSWER: Patient stay in the hospital is counted from the time the patient is admitted to the hospital through the admitting office until she is discharged, regardless of where she spent her time while in the hospital.

Emergency Prescriptions

QUESTION: *We have no interns or residents in our hospital. We have a rotation system for the active staff to answer calls in our emergency room. When a patient comes to our emergency room, the nurse telephones the doctor on call who sometimes orders a narcotic or a medication without ever seeing the patient. Do you think that it is proper for a physician to order a narcotic on a patient whom he has never even seen?*

ANSWER: I do not think that it is proper for a physican to prescribe over the telephone for a patient he has never seen. The matter should be taken up with your medical staff and, if need, with the medical officer of health of your county or state. If the nurse administers a narcotic to strangers in these circumstances, both she and the hospital are inviting a lot of trouble.

Routine Chest X-Ray

QUESTION: Some physicians feel that the routine chest x-ray on admission is an unnecessary expense to the patient because it has already been given in the general practitioner's office. Would the G.P.'s report be acceptable to the hospital instead of taking the plate over again?

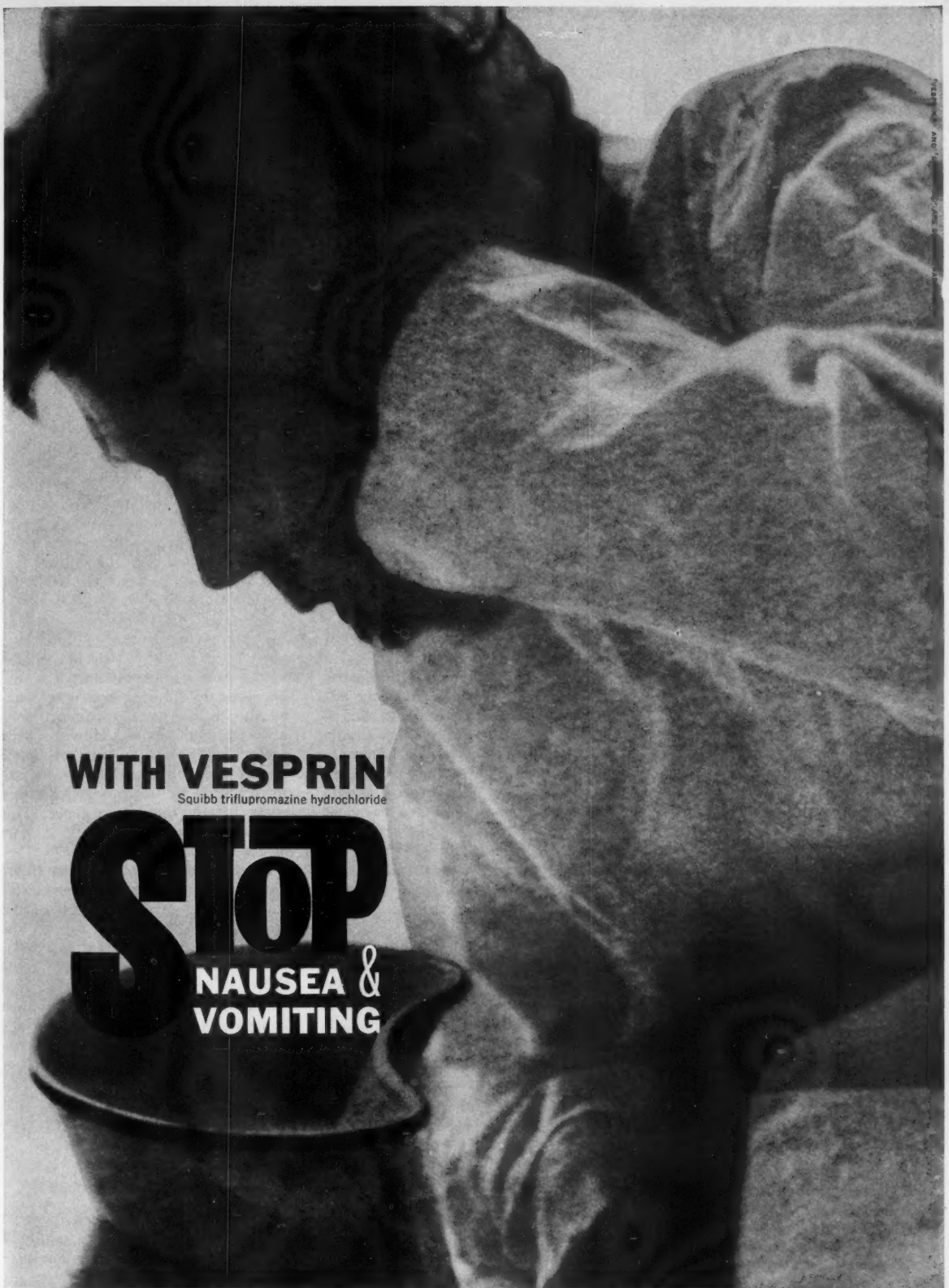
ANSWER: No. The x-ray plate should be read by a qualified radiologist, or a specialist in chest diseases.

Medical Record Check-Off

QUESTION: *Our medical staff insists that we should apply modern methods to our medical records and use the "check-off" system to save the time of physicians, instead of having to write everything down in detail.*

ANSWER: A recent hospital inspection report by the Joint Commission on Accrediation of Hospitals states as follows:

"The check-off system used in the medical records should be abandoned. The positive and negative findings should be recorded in adequate detail." ■



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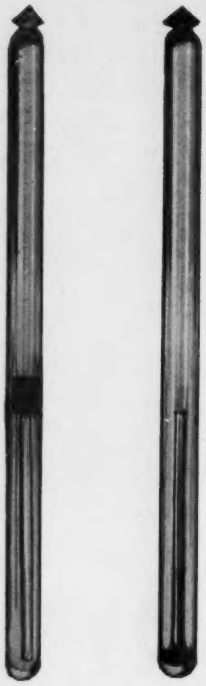

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Hospital Accounting

with Professor T. LeRoy Martin

Perquisites Are a Cost of Services and Internal Controls

Inquiry:

It appears that employees of a hospital are taxable on the value of the living quarters and food furnished by the hospital. Should this value be accounted for in terms of the cost of furnishing such perquisites?

Comment:

There have been two theories advanced regarding the recording of the value of perquisites in the accounts. One theory is that any adjustment of the accounts to segregate a value for perquisities should record the perquisite at a fair market value. The other suggested method is that the records should show the cost of these services afforded to the employees.

It is generally agreed that the value of perquisites furnished an employee is an additional value to be placed on the services of the employee. That is, furnishing an employee any service increases the cost of salaries, and, incidentally the amount of real income to the individual. It can be argued that the cost to the department in which the individual is employed should be the fair market value of the living quarters or food furnished. If the fair market value is greater than the cost of furnishing quarters or food, the excess represents a profit to the dormitory and the dietary department. To record the transaction in the accounts would require charges to be made to salaries and wages of the various departments in which the employees work and credits to be made to Dormitory Rental Income and to Income from Food Service to Employees. These amounts would all represent fair market value of the perquisites. When cost allocations were made the cost of the dormitory operation might be less than the Rental Income account thus showing a profit. Cost of meals furnished employees would be off-set against the Income from Food Service to Employees account and, depending upon actual conditions, might produce a profit or loss.

If the accounts are adjusted by the second method, that is, if the perquisites are recorded at cost of furnishing them, the value would vary from period to period as the actual cost varies. A charge would be made to salaries and wages accounts in the various departments as described above. However the off-setting credits would be made to the cost of the dietary department and to dormitory housing costs rather than to income. This method represents merely a part of cost allocation.

In practice hospitals are likely not to account for perquisites except on the earnings record of the employee in order to report the amount for income tax purposes. The values used are usually nominal ones and represent neither cost or fair market value. If such amounts are recorded in the accounts they are likely to be recorded as credits to income accounts regardless of whether they are lesser or greater than the cost of the service to the employee.

Inquiry:

Is it possible for a clerk working on patients' receivables to withhold cash and use it for his own purposes?

Comment:

A clerk who posts collections to patients' receivable accounts can-

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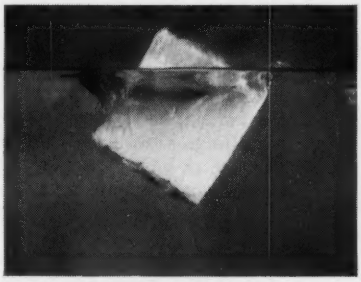

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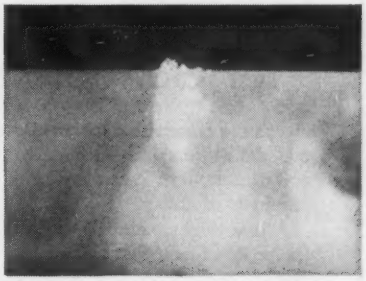

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not withhold cash unless he has access to cash as well as the patients' accounts. If a proper system of internal control has been established a clerk will not have access to both.

In a small hospital with few employees division of labor to prevent a break down of internal control is difficult. In such an instance a clerk may have access to cash receipts as well as patients' accounts. If he does have both under his control, it is possible to withhold cash temporarily by simply failing to credit the patient's account. This is easily done if the payment is in currency. If payment is by check there must be sufficient currency available for the clerk to substitute the check for currency and use the currency for his own private purposes. Sooner or later he must credit the patient's account but he may do that with money received from another patient while leaving the second patient's account as one still uncollected. If he continues to do this with a third, fourth and fifth patient, he is able to keep the original amount of cash withheld without any one patient's account staying open for more than two or three days after the cash was actually paid. The shortness of the time is likely to arouse no suspicion by anyone who might review the accounts. Withholding cash is doubly easy if the same clerk has charge of mailing out statements to persons who have left the hospital. It would be difficult for the clerk to keep the money permanently, if someone in the organization is reconciling departmental services rendered with the total charges for the day or week. To obtain cash to be withheld permanently would require destruction of the patient's records. This is difficult to do without danger of the matter coming to light, as part of the work of other hospital employees is designed to prevent such an instance. ■

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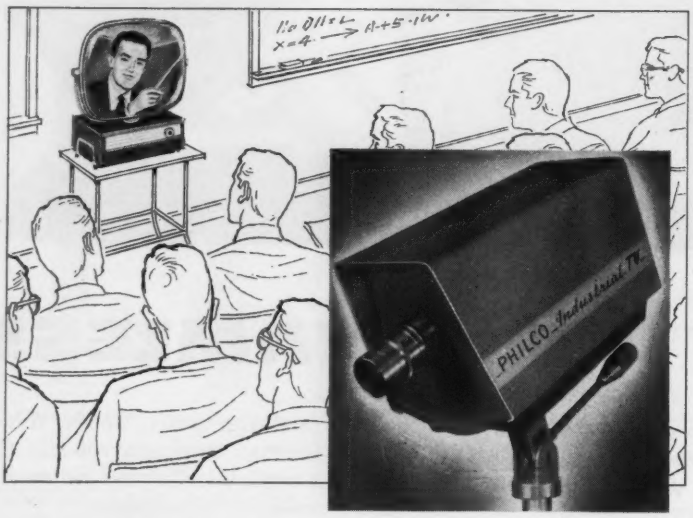

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A Problem Solved in 1896

■ IT was the year 1896. The Indiana State Health Officer was Dr. J. N. Hurty.

Typhoid fever was still one of the worst killers in every town and city. Dr. Hurty and a few others were convinced that polluted water supplies were the source of the disease. Hurty made speeches, wrote articles for the newspapers, collared every member of the State legislature he could catch up with, but he didn't have a prayer.

To add to his chagrin, one of the most notorious typhoid fever breeding spots in the State was right in the middle of the capital city of Indianapolis. Where a large office building stands today, there was a row of dwellings known as *"typhoid row,"* because so many people who lived there contracted the fever.

One day in final despair Dr. Hurty bought a five-gallon can of kerosene . . . to be used for medicinal purposes of course. Late that night, he walked toward typhoid row. He went down the alley back of the dwellings and poured kerosene in every privy . . . Next morning Dr. Hurty's office was deluged with complaints that the water in every well in typhoid row was unfit to drink. It tasted of kerosene. The doctor made his point. The State Legislature quickly appropriated funds to clean up the water supply. ■

For more information, use yellow postcard inside back cover.

KOZMA

Continued from page 7

ity from the Board of Directors, who determine policy, to the administrator, his assistants and to the personnel who actually perform the work. The lines should be clearly defined and the administrator must know the full extent of his authority to permit him to perform his duties freely and efficiently. The subordinates, too, must know the specific source of control to which they are responsibile. Furthermore, these paths of authority should not be short circuited.[5]

The success of an administrator in fulfilling his management obligations and in fulfilling his responsibility to his assistants can be shown by thorough-going effective leadership—leadership that is constructive, with obedience from subordinates coming in the form of cooperation. This is evidenced by a well balanced organization with an effective staff, which meets all job responsibilities as a result of consultations and exchange of ideas up and down the command chain and thereby fulfills the hospital's obligation to the community.

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[3]Schlek, Edward C.: Successful executive action. Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1956.

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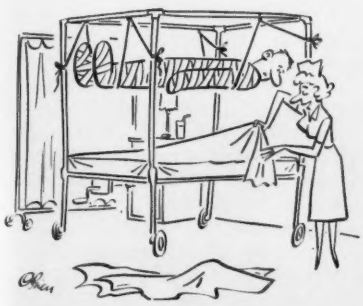
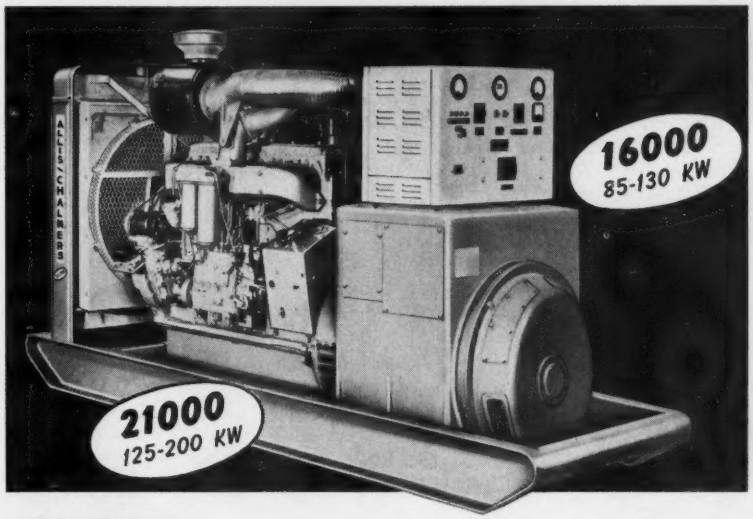


"I'll only be a moment Mr. Fredericks."

Euthanasia

■ THE EUTHANASIA SOCIETY, which bears as its subtitle "a society for obtaining the legalisation of voluntary euthanasia," was founded in 1936 by the late Lord Moynihan. In that year a bill was laid before the British Parliament to give legal protection to a doctor who acceded to a patient's request for "merciful release" in certain circumstances, particularly intolerable pain associated with incurable disease. The bill was rejected, as was another in 1950; but in the latter case it was thought that the defeat was due to dislike of the complex safeguarding procedure of interviews and documents. The society is now concerned to devise a simpler procedure in the hope that a new bill might command more support. It also undertakes propaganda activities, and is anxious to enroll medical members. The secretary is Miss G. F. Fishwick, 86, Rochester Row, London, S.W.1. ■

—The Lancet



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Washington Bureau Reports

by Walter N. Clissold

CONTINUED HOSPITAL EMPLOYEE EXEMPTION from Fair Labor Standards Act coverage is strongly supported by Sen. Long (D., La.). Louisiana hospitals indicate 30 percent and up cost increases, $5 daily rate boosts if proposed minimum wage of $1.25 applied. Long concludes this would be "detrimental to the public welfare;" offers exempting amendment to pending legislation.

PRESIDENTIAL VETO was still viewed as serious threat to the Housing bill, with its provisions for student nurse and intern housing, nursing homes and housing for aged. Threat may be sufficient to force a toning down in the bill's money authorizations during Senate-House conference on differences. If not, best estimates were that Congress would be unable to muster votes enough to over-ride veto, which seemed assured on basis bill originally passed the two houses.

GRANDIOSE SPENDING PLANS, including the Community Facilities bills, with its $1 billion price tag, and the Housing bill (see above) face tough going. The Community bill contains loans for public health centers. President Eisenhower is riding high; the rebounding economy is all on his side. Need for pump priming efforts are negligible. Biggest problem will be for Administration to stretch out recovery so good times will help Republicans at the polls in November 1960.

SBA LOANS APPROVED: Capitol Nursing Home, Baton Rouge, La., $46,000; The Maples and Massapequa Maples (nursing homes), Rockville Center, L. I., N. Y., $270,000; Southwestern Clinic Hospital, Inc., Lawton, Okla., $450,000; Lofton Nursing Home, North Franklin, Tenn., $90,000; Lehman Nursing Home, Kenosha, Wisc., $23,000; Nelson's Nursing Home, Whittier, California, $15,000.

PROGRESSIVE PATIENT CARE's central theme is the "organization of facilities, services, and staff around the medical and nursing needs of the patient," says PHS' recent report, "Elements of Progressive Patient Care." Basic elements in the present concept: 1) Intensive Care; 2) Intermediate Care; 3) Self Care; 4) Long Term Care; and 5) Organized Home Care. Additional studies will aim to: 1) set guidelines for hospitals as to minimum and optimum nurse staffing patterns for various PPC units; 2) help general hospitals predict bed requirements for PPC units; and 3) assist hospitals to figure cost of these services. The work just completed was under the direction of Dr. Jack C. Haldeman, chief, Div. of Hospital and Medical Facilities, PHS. Aside from PHS personnel, the following were given acknowledgements: at Manchester (Conn.) Memorial Hospital, Howard J. Lockward, M. D.; Lane Giddings, M. D.; M. Vera Dormer, R. N.; Edward T. Thoms, M. A. C. H. A.; Charles D. Flagle, D. Eng., Johns Hopkins Hospital, Baltimore; and Bernard Felton, C. P. A., Connecticut Hospital Assn., New Haven.

PHYSICIAN COVERAGE BY SOCIAL SECURITY moves nearer — possibly. Rep. Wallhauser (R., N. J.) son and brother of doctors, offers compromise: 1) allow presently practicing physicians option of coverage; 2) automatically cover new doctors as they enter self-employed practice. Cites that Essex County Medical Society members favor compulsory coverage better than two to one.

"PROGRESS IN INDIAN HEALTH," 8-page report prepared by PHS now available, tells of dramatic accomplishments in the last four years. Improvement in facilities including present building of four new hospitals, five hospitals being completely remodeled, and major alterations on a number of others.

NIH RESEARCH GRANTS in five fiscal years (1954-1958) have increased 146 percent in number and 232 percent in dollars. Research fellowships show comparable growth—375 percent in number and 202 percent in dollars. "Most significant comparion of all"—50 projects constituted the entire research grants program of NIH in 1946; currently the total is some 9,000—an 18,000 percent boost in 14 years.

FOOD FOR SHELTERS, of considerable interest to hospitals, is getting study from an OCDM Advisory Group. Membership from government agencies, includes PHS. Packaging and storage for extended periods of time is the basic problem. Some related aspects: humidity factors of food packaging; storage life of dehydrated foods; utilization of surplus foods; protection against infestation; and selection of foods with long shelf life and use in shelters having varying atmospheric environments.

NATIONAL LIBRARY OF MEDICINE ground-breaking was held June 12. Sen. Lister Hill (D., Ala.) did the spade work, with HEW Secretary Flemming and other dignitaries participating. NLM's 1960 budget request was $1,566,000, its preliminary construction funds being appropriated last year.

PEOPLE: — *Maj. Gen. Leonard D. Heaton,* Commanding General, Walter Reed Army Medical Center, named Army SG, succeeding *Maj. Gen. Silas B. Hays* . . . . . *Col. Inez Haynes,* named general director National League for Nursing, effective September 1, is retiring as chief, Army Nurse Corps . . . . . *Margaret Fecisen Knapp,* appointed chief, Nursing Services Branch, Div. of Indian Health, PHS, succeeding *Mrs. Florence Callahan,* named nursing consultant HEW at Dallas, Tex. . . . . *Marion B. Folsom,* former HEW Secretary, elected trustee of Brookings Institution, Washington . . . . . *Sen. Lister Hill* (D., Ala.), received the annual "Health-USA" award of the Washington Board of Trade and the Medical Society of the District of Columbia. Making the presentation was *Dr. Howard A. Rusk,* director, New York University-Bellevue Medical Center, New York City. ■

Lehn & Fink
PROFESSIONAL DIVISION

staph newsletter

FIRST OF A SERIES WITH SIGNIFICANT SUGGESTIONS FOR CONTROLLING CROSS INFECTION

DID you notice the line just above? Actually, that explains our feeling, and our hope, that you would be interested in hearing from us through STAPH NEWSLETTER at fairly frequent intervals. "Staph" is such a big subject and big problem at the moment that we want to be of as much help as possible in calling news items about its control to your attention. Or perhaps just making comments growing out of our own experience with its control. Our main concern is helping you curtail cross infection in your own hospital. Staph comes first, of course, but if we occasionally mention other problems—TB, for instance—we hope you'll understand and watch for the next newsletter in the series.

This year is Lehn & Fink's 85th anniversary . . . and we definitely feel like celebrating. Not because we're so old but because we like to feel that we have made progress during that time—and will continue to in this period when the early concepts of keeping the hospital environment aseptically clean are being put to such severe tests. Lysol® disinfectant was originally developed in 1886 in Europe only a few years after Lister first presented his theories on aseptic surgery to the world—and has been used in hospitals in this country ever since the turn of the century. Today, with its non-toxic improved formula, Lysol is the most widely used disinfectant in the world.

Eliminating blankets as a constant source for spreading staph can be accomplished by confining use of a blanket to one patient and, when washing between patients, adding a phenolic disinfectant solution during the laundry procedure. In a recent A.H.A. Hospitals article, Dr. Otto H. Ravenholt and his co-workers confirm their laboratory findings in use of Amphyl® when laundering blankets taken directly from wards of two hospitals. Plate counts before laundering showed heavy contamination with staph. Comparison of untreated control blankets and Amphyl-treated blankets after drying definitely established the effectiveness of this procedure in eliminating staph on blankets. In a similar procedure for chemical disinfection of blankets, pillows, and personal clothing, a TB sanitarium in the West has relied upon use of Amphyl for over ten years—with no deleterious effects on blankets used regularly during that period. If you'd like the complete article, please write us. You may want to do similar tests in your own hospital.

After a 2-year study on the problem of "clean" wound infections at Minneapolis General Hospital (Hitchcock and others, Surgery 44:492, 1958) the dollar cost in excess hospital days is estimated. During one year, 45 patients required 2,480 additional days in the hospital due to staph infection. At $32.00 cost per day, the annual total cost was $79,360. Improvements in housekeeping procedures were cited as among the significant remedial measures taken.

Most everyone recognizes that every hospital has some unique problem in management and control of infections—but for hospital-wide control the establishment of an Infections Committee has come to be the basic step in any improvement program. The Surgery article mentioned above is interesting in its description of the Infections Committee "at work". You may also like to read an article in the December, 1958 issue of the A.M.A. Archives of Internal Medicine by Dr. Yow and his co-workers suggesting the precise organization and functions of the committee in relation to the individual hospital.

"By a procedure of frequently repeated, intelligently directed, and vigorously applied mechanical effort *in combination with a good detergent-disinfectant,* any surface or area whatever can be rendered clean or even sterile." Adams, R., Fahlman, B., Dube, E. W., Dube, F. J. C., and Read, S. Control of Infections within Hospitals: special reference to prevention within operating rooms. J.A.M.A. 169:1557 April 4, 1959.

Since L&F's Tergisyl® was the detergent-disinfectant used in this infection control study, we have reprints ready for your request. Dr. Adams also has some other good suggestions for cutting infections.

When is staph epidemic? Dr. Warren E. Wheeler of the Department of Pediatrics at the University of Ohio says, "Even one breast abscess in a baby is an indication of a strain so virulent that it probably should be considered an epidemic strain. Certainly two breast abscesses or several lesions in different babies due to the same strain constitute an epidemic." (Pediatrics, 23:977, 1959).

If you have a specific staph problem plaguing you, why not write us about it? Although our contribution applies to only one part of the complete infection control picture, we just might be able to help. Our research laboratories and technical advisors would be glad to work on it. And I, personally, would appreciate having you ask us. Let me hear from you.

Felix M. Bronneck

Felix M. Bronneck, Manager
Professional Division

LEHN & FINK PRODUCTS CORPORATION
445 PARK AVENUE, NEW YORK 22, NEW YORK

Guest Editorial

The Role of the Civilian Hospital in The Medicare Program

by Brigadier General Floyd L. Wergeland

THE Medicare Program, which went into operation on 7 December 1956, was conceived as a morale-improvement program for the men in uniform. At that time it was estimated that approximately 40 percent of their dependents — wives and children — did not have medical care available to them from Service hospital facilities. The Medicare Act provided that the services and facilities of civilian physicians and hospitals were to be used to provide this needed care as a supplement to that care already being provided by Uniformed Services medical facilities.

My predecessor, Major General Paul I. Robinson, set up the Office for Dependents' Medical Care and the procedure which, under nonprofit contracts, utilizes the facilities of the Blue Cross Association and Mutual of Omaha to pay hospitals for authorized care provided under the Program. Similarly, the state medical societies, Blue Shield organizations, and in some instances, the insurance companies effect payment of physicians who participate in the Program.

An undertaking as large and complex as this is achieved neither easily nor quickly. Two million men in the Armed Forces, the medical staffs of the Uniformed Services, three million dependents, 150,000 civilian physicians, over 7,000 civilian hospitals — integrating all of these into an effective and economical program is a sizeable task.

Operating as a coordinated team, our civilian physicians and hospitals have worked magnificently and harmoniously with this administrative machinery. During the first two years of the program's operation, care was provided for more than 600,000 hospitalized cases—an increase of slightly over 40 percent in the number previously cared for by Service hospital facilities.

From my viewpoint of the overall Program, I am sure that it has been well received. But perfection is not of this world and all success must be qualified.

During these first two years of operation, there was a substantial decrease in the number of dependents admitted to Service hospitals. This was not a sound situation. Our Service hospitals must be maintained on a readily available basis as part of our defense organization to provide quick expansion in the event of war. Since they must be maintained, it is to the advantage of everyone that their marginal capacity, equipment, and personnel be used to the optimum extent. The restrictive measure of the Medicare Program, effective 1 October 1958, which requires those who reside with sponsors to have a Permit in order to use civilian facilities at Government expense is a step toward that objective. This is the main purpose, since it is intended that the use of civilian hospitals be continued as a supplementary portion of a unified, smoothly operating, stabilized, family program. It is hoped that a program will finally develop which will provide an adequate range of needed medical

Please turn to page 28

General Wergeland is Executive Director, Office for Dependents' Medical Care, Office of the Surgeon General, U.S. Army, Washington, D.C.

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'HM' Salutes

Frank Tripp, D.D.

Executive Secretary
Hospital Board of the Southern Baptist Convention
New Orleans, Louisiana

■ DOCTOR FRANK TRIPP is executive secretary of the hospital board of the Southern Baptist Convention. He is also superintendent of the hospitals operated by this board. He has held this post since 1947. It is mainly because of his dedication, his energy and his loyalty that the Southern Baptist hospitals enjoy their present high standing among the hospitals of the United States. It was not always so.

The strong firm hand of Doctor Tripp has guided the policies of the Baptist Hospital surely and certainly towards national recognition. Accreditation by the Joint Commission on Accreditation of Hospitals is a status which all now enjoy.

Doctor Tripp's career includes a long and distinguished experience in pastorates in the Baptist Church. Born and reared in Indian territory in Oklahoma, Doctor Tripp's interest in the ministry began at the age of seventeen. In succession he served as pastor of Baptist churches in Idabel, Okla.; Monroe, La.; Minden, La.; St. Joseph, Mo. and Montgomery, Ala. this last which he served for nine years until 1947 when he assumed his present position.

At all times he was interested in hospitals and in the welfare of the sick and injured. Among the institutions which he has supported and promoted are the Riverside Sanitarium in Monroe, La.; the Noyes Baptist Hospital in St. Joseph, Mo.; the Baptist Memorial Hospital in San Antonio, Tex.; the Baptist Memorial Hospital in Jacksonville, Fla. and the Children's Home in Monroe, La.

His opinion is frequently sought as a consultant. He presently serves the Baptist Memorial Hospital in Kansas City, Mo. and the Miami Baptist Hospital in Miami, Fla. in this capacity. He has also served as a hospital consultant for the Standard Fruit Company in Honduras.

At all times a leader in the Baptist church, Doctor Tripp served as president of the Louisiana Baptist Convention from 1928 to 1929 and repeated in the same capacity in Alabama from 1945 to 1947. He has served the Baptist church in many other capacities; as an officer, committeeman and pastor.

In addition to serving his church, Doctor Tripp has been outstanding for his services to his community. He served with distinction during World War II as a Captain in the Medical Administrative Corps of the U.S. Army; and as a member of various committees and councils for social and community services including the U.S.O., the Kiwanis Club, The Rotary Club, the Boy's Club and various other civic activities. In 1952 he received the Certificate of Merit from the City of New Orleans for outstanding services to that community.

In the hospital field, Doctor Tripp has been equally generous with his time and effort. He has served variously as president of the New Orleans Hospital Council, Southwide Baptist Hospital Association and Montgomery County Hospital Association. In addition he has been an officer of the Louisiana Hospital Association and of several other health organizations.

In recognition of his many services to the church and to the people he was awarded the honorary degree of Doctor of Divinity by Mercer University and of Doctor of Laws by Ouachita College. Doctor Tripp is retiring from his present position to enter the field of hospital consulting. With this salute HOSPITAL MANAGEMENT desires to acknowledge his service in the past and to wish him well for the future. ■

Record of patient with congestive failure treated at a leading Philadelphia hospital. Photos used with permission of the patient.

marked pitting edema (4+) cleared in 4 days with Esidrix

L.S., 81 years old, admitted to hospital 3/3/59 with hematuria, arteriosclerotic cardiovascular disease, poorly compensated heart failure. When 4+ pitting edema, hepatic congestion and râles failed to clear on regimen of salt restriction, digitalis and pulmonary decongestants by 3/6, Esidrix 50 mg. b.i.d. was ordered. By 3/8 L.S. had lost 3 pounds, pitting edema was reduced to 1+, râles decreased. Patient was ambulatory on 4th day of Esidrix therapy; no evidence of edema. He was discharged feeling well on 3/14.

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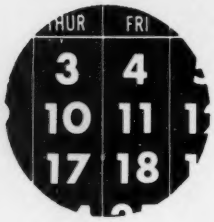
Hospital Calendar



June

19-20 . . **National Association of Hospital Purchasing Agents,** Abbott Hall, Chicago, Ill.

21-23 . . **Michigan Hospital Association,** Sheraton-Cadillac Hotel, Detroit, Michigan.

21-26 . . **American Physical Therapy Association,** Hotel Leamington, Minneapolis, Minnesota.

24-26 . . **Comite des Hopitaux du Quebec,** Showmart, Montreal, Quebec, Canada.

July

4- 9 . . **American Society of X-Ray Technicians,** Shirley Savoy Hotel, Denver, Colorado.

12-17 . . **Institute on Hospital Accounting and Finance,** Indiana University, Bloomington, Ind.

August

9-14 . . **Medical Record Librarians School,** University of Colorado, Boulder, Colorado.

16-18 . . **American Society of Hospital Pharmacists,** Cincinnati, Ohio.

23-26 . . **American College of Hospital Administrators,** Statler Hotel, New York, New York.

24-27 . . **American Association for Hospital Planning,** Governor Clinton Hotel, New York City.

24-27 . . **American Association of Hospital Consultants,** Statler-Hilton Hotel, New York City.

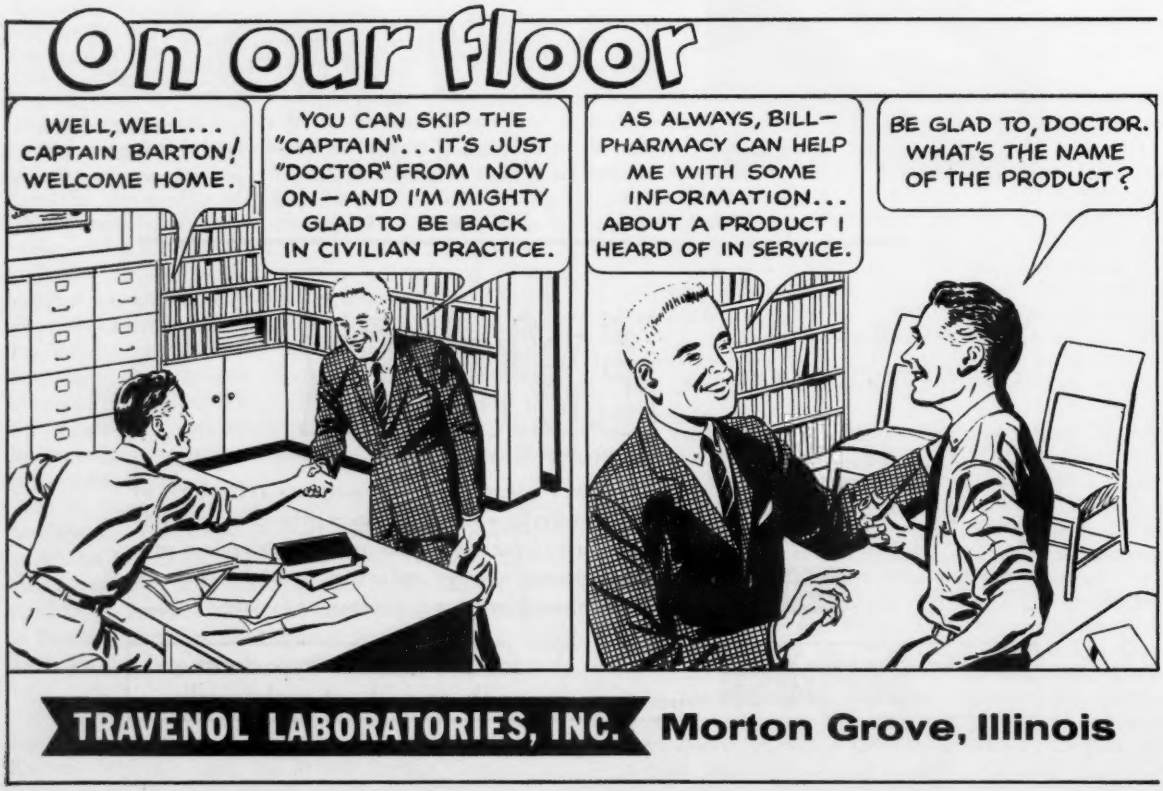
24-27 . . **American Association of Nurse Anesthetists,** New Yorker Hotel, New York City.

24-27 . . **American Hospital Association,** The Coliseum, New York, N. Y.

25-28 . . **The American Dietetic Association,** Statler Hilton, Los Angeles, California.

September

14-16 . . **Montana Hospital Association,** Rainbow Hotel, Great Falls, Montana.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14-18 . . **American Dental Association,** Coliseum, New York, N. Y.

23 . . **Utah State Hospital Association,** Salt Lake City, Utah.

October

1 . . **Hospital Association of Rhode Island,** Sheraton-Biltmore Hotel, Providence, R. I.

6- 8 . . **American Nursing Home Association,** Morrison Hotel, Chicago, Illinois.

7- 9 . . **Annual Hospital Merchandise Mart of the Mississippi Hospital Association,** Hotel Buena Vista, Biloxi, Miss.

8- 9 . . **Arizona Hospital Association,** Monte Vista Hotel, Flagstaff, Arizona.

8- 9 . . **Colorado Hospital Association,** Antler's Hotel, Colorado Springs, Colorado.

8- 9 . . **Mississippi Hospital Association,** Hotel Buena Vista, Biloxi, Mississippi.

14-15 . . **Indiana Hospital Association,** Student Union Building, Indianapolis, Ind.

14-16 . . **Saskatchewan Hospital Association,** Bessborough Hotel, Saskatoon, Saskatchewan.

15-16 . . **Nebraska Hospital Association,** Cornhusker Hotel, Lincoln, Nebraska.

19-20 . . **Idaho Hospital Association,** Elks Lodge, Boise, Idaho.

19-20 . . **Oregon Association of Hospitals,** Coos Bay, Oregon.

19-23 . . **American Public Health Association,** Convention Hall, Atlantic City, New Jersey.

19-23 . . **California Hospital Association,** Ahwahnee Hotel, Yosemite, California.

21 . . **South Dakota Association of Medical Record Librarians,** Yankton, South Dakota.

25-28 . . **American Osteopathic Hospital Association,** Statler Hotel, Los Angeles, California.

25 . . **American College of Osteopathic Hospital Administrators,** National Institute, Statler Hotel, Los Angeles, Calif.

26-27 . . **Maryland-District of Columbia-Delaware Hospital Association,** Shoreham Hotel, Washington, D. C.

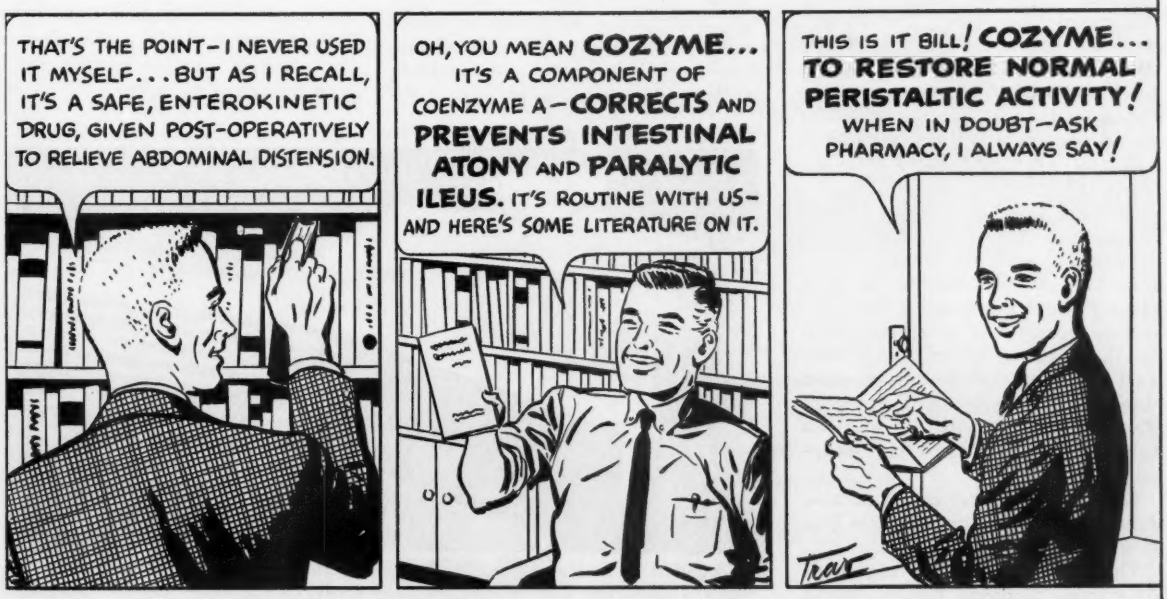
26-28 . . **Ontario Hospital Association,** Royal York Hotel, Toronto, Ontario, Canada.

November

4- 7 . . **American Association of Blood Banks,** Edgewater Beach Hotel, Chicago, Ill.

List Your Meetings

As soon as the dates for the next succeeding meeting of an organization have been determined an official should forward those dates at once to Editor, Hospital Management, 105 W. Adams St., Chicago 3, Ill. to insure appearance here.


THAT'S THE POINT—I NEVER USED IT MYSELF... BUT AS I RECALL, IT'S A SAFE, ENTEROKINETIC DRUG, GIVEN POST-OPERATIVELY TO RELIEVE ABDOMINAL DISTENSION.
OH, YOU MEAN COZYME... IT'S A COMPONENT OF COENZYME A—CORRECTS AND PREVENTS INTESTINAL ATONY AND PARALYTIC ILEUS. IT'S ROUTINE WITH US—AND HERE'S SOME LITERATURE ON IT.
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Smallpox Vaccinations Are Still Needed for Protection

■ SURGEON GENERAL LEROY E. BURNEY of the Public Health Service issued a reminder that smallpox vaccination continues to be important for everyone in the country.

"A recent outbreak in Germany is new evidence of the continuing threat of the disease to this country," Dr. Burney pointed out. "Smallpox vaccination is especially urgent for all persons planning foreign travel, for those who provide services in international travel and commerce, and for personnel in hospitals and health services."

Smallpox was introduced into Germany during December 1958, by a Heidelberg physician returning from a holiday in India. He had not been vaccinated since his schooldays. Before the outbreak was controlled, there were 18 cases and two deaths. One of those who died was a physician who attended the original case.

As a direct result of the epidemic in Germany, the U. S. Quarantine Service screened about 15,000 persons entering the country from that area. In order to prevent introduction of the disease into the U. S., nearly 150 of these persons were held for medical observation until it was determined that they had not contracted the disease.

"The average American, like the German physician, has not been vaccinated since early schooldays," said Dr. Burney. "Only 13 of the 49 States require school children to be immunized for smallpox. This widespread lack of immunization would present a serious problem if smallpox were introduced into the country."

"Despite the fact that the United States has been free of smallpox since 1953," said the Surgeon General, "we cannot afford to be complacent about the disease. The continuing occurrence of epidemics in South America, Africa, the Middle East and the Orient poses a constant threat to the rest of the world. Rapid travel by both air and sea brings these outbreaks to our doorstep."

Only North America, Australia, Japan, and the Philippines were free of smallpox last year.

The Surgeon General urged all Americans planning foreign travel to be sure they have up-to-date immunization against smallpox before leaving home. It will provide protection during travel and facilitate re-entry into this country. U. S. quarantine regulations require valid smallpox vaccination—no more than three years old—for all persons, both citizens and aliens, who enter our country from all other countries, except Canada and a few additional places nearby.

In an effort to further strengthen the defense against smallpox, the Surgeon General said he is requesting the cooperation of airlines and shipping lines engaged in international commerce, as well as hospitals, State and local health services, to encourage the vaccination of all employees who come in contact with the traveling public. ■

A broken leg didn't keep Sister Charles Regina from handing out diplomas at the first graduation exercises of the Georgetown University Hospital Training School for Practical Nurses.

WERGELAND

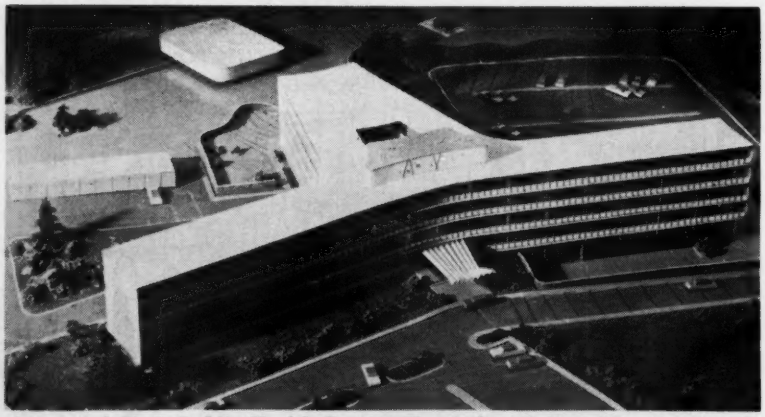
Continued from page 22

care for eligible spouses and children of active duty personnel and which will become a permanent feature of service life.

The staff of the Office for Dependents' Medical Care will continue to work faithfully with our civilian hospitals on a cooperative basis to build this coordinated system which is the goal of all concerned with Medicare. With the experience of the past two years as a criterion, I am confident that the hospital administrators will continue to give us their generous help and sound advice.

The staff of the Office for Dependents' Medical Care is not immune to human fallibility. Being human we do not like to make mistakes but being realistic we know that in spite of our best efforts some will occur. We solicit your constructive help as our friends in assisting us to avoid errors of ommission or problems caused by misunderstanding.

Although we have no word of criticism to address to civilian hospital staffs or administrators, we would appreciate particularly your assistance in ensuring that all claims are submitted promptly; that your DA Forms 1863 (Statement of Services Provided by Civilian Sources) are correct and complete; and that you use supplemental billings as little as possible. Your help in this area will aid materially in the efficient conduct of the Program. ■



A 200-bed U. S. Public Health Service Hospital at Gallup, New Mexico, of modern concrete and aluminum will have four stories and a basement floor, and will serve as the hub of health and medical services for an estimated 81,700 Indians living on or near the Navajo Reservation in Arizona, New Mexico, and Utah. A special feature will be the facility's large integrated outpatient department and field health unit.

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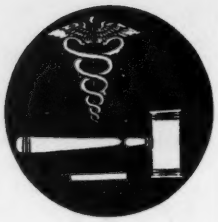

Physiotherapists And The Law In Great Britain

by Donald C. Norris M.D., F.R.C.S.

Editor's Note: The laws of the United States, like the laws of Great Britain, are largely derived from the Common Law. Although the cases quoted in this paper refer to British law, the principles expounded are applicable to U.S. and Canadian law. They are mainly founded on plain ordinary common sense. Readers are cautioned they should still consult the hospital attorney if any problem arises.

■ IN RECENT YEARS there has been a great increase in the number of actions brought by or on behalf of patients who claim to have suffered injury in the course of treatment at hospitals or by private practitioners, and this has given rise to much anxious thought on the matter of how such claims might be averted, and how they should be dealt with when they arise. Of course treatment does not always work out *"according to plan,"* things may go wrong and the patient, quite naturally, wants to know why they went wrong and whether it was due to something which should have been foreseen and avoided.

It is important to realize that it is not sufficient to show that the patient suffered some injury in the course of the treatment; as Lord Justice Denning said in the case of *Roe v. Ministry of Health*[1]. *"We should be doing a disservice to the community at large if we were to impose liability on hospitals and doctors for everything that happens to go wrong. Doctors would be led to think more of their own safety than of the good of their patients. Initiative would be stifled and confidence shaken. A proper sense of proportion requires us to have regard to the conditions in which hospitals and doctors have to work. We must insist on due care for the patient at every point, but we must not condemn as negligence that which is only misadventure."*

Briefly, the law regards as negligence any act which a reasonable and prudent person would not do or the omission of any act which such a person would do. To this it must be added that the higher the degree of skill possessed by a person undertaking treatment, the greater is his responsibility towards his patient. Conduct which might be excused in a junior or inexperienced practitioner may not be condoned in anyone who possesses special qualifications and holds himself out to be competent above the average.

Sometimes a hospital authority can be sued as directly responsible for a mishap to a patient. This may happen if the authority fails to take proper steps to avoid the transmission of infectious disease. In *Lindsay County Council v. Marshall*[2] the County Council controlled a maternity home in which there was a case of puerperal fever. Some steps were taken to disinfect the premises, and a new patient was then admitted who contracted puerperal fever. She then sued the hospital authorities for damages for negligence. It was held that the authorities were responsible, because they had failed to inform the new patient or her medical advisor of the risk and had not taken swabs from members of the staff to ascertain if any of them was a carrier of infection.

In the case of *Collins v. Hertfordshire County Council*[3], a surgeon telephoned to a young lady resident medical officer at a hospital, asking her to prepare an injection for local anesthesia for an operation which he was to carry out. He said that he wanted a solution of 1 percent procaine with 1/200,000 adrenalin. Unfortunately, the resident took this message to mean 1 percent cocaine with 1/20,000 adrenalin—a mixture which was quite unsuitable for injection and which, in fact, caused the patient to die on the operating table.

The Court found that the hospital authorities were liable for this mistake, because they allowed a young and inexperienced girl (who had

Please turn to page 34

Paper read at the Post-Registration Course of the Chartered Society of Physiotherapy, Selwyn College, Cambridge.

[1] 1954, 2K.B. 66
[2] 1937, A.C. 94
[3] 1947, 1K.B. 598

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Books

Dr. Squibb

by Lawrence G. Blochman. Simon and Schuster, New York, 1958. pp. 371. $5.00

■ THE BOOK, *Doctor Squibb,* provides more than enjoyment to anyone who reads it and particularly to those engaged in the pharmaceutical and medical professions. From the voluminous collection in the diary of Dr. Squibb, his biographer provides a deep insight into the life and problems of the man who was a true pioneer in anesthesia.

The life of Dr. Squibb spanned an era that holds deep intrigue in the history of our nation. From before the Civil War to the turn of the century, America was maturing not only politically but medically and pharmaceutically as well. The Civil War, bloodiest of all our wars, provided untold misery, but how much worse it would have been, had it not been for men like Dr. Squibb who, through his studies of anesthesia and his research into pure ether, lessened the sufferings of thousands

The book, *Doctor Squibb,* gives the reader a sound background into crusades that led to the good principles of medicine and pharmacy enjoyed by all today. From the beginning when Dr. Squibb was a young physician when the country was at war with Mexico, through his experiences as an assistant surgeon of the Navy, his laboratory work and experimentation that led to his invention of a safe method of making pure ether of standard strength, and his love and marriage and fatherhood, the author gives us the "feeling" of the life of a great man. Then just before the War Between the States, he founded a now gigantic drug manufacturing enterprise. In those first years when Dr. Squibb made "official ether, strong ether, chloroform, Hoffmann's anodyne and spirit of niter" in Louisville, a great name in pharmacy and medicine was born—E. R. Squibb & Sons.

During the Civil War when he made "the first real progress in the crusade that was to become Dr. Squibb's whole life: the fight to regulate drug imports, manufacture and sales so that Americans could be assured of getting pure medicines of uniform strength and decent distribution," he exerted "limitless energy" upon the Lincoln Administration, "to prevent the importation of adulterated and spurious drugs and medicines."

The constant struggle shown by Dr. Squibb for better pharmaceuticals in the post Civil War period was to continue until his death in 1900 when he was past his 81st birthday. Dan Moravec ■

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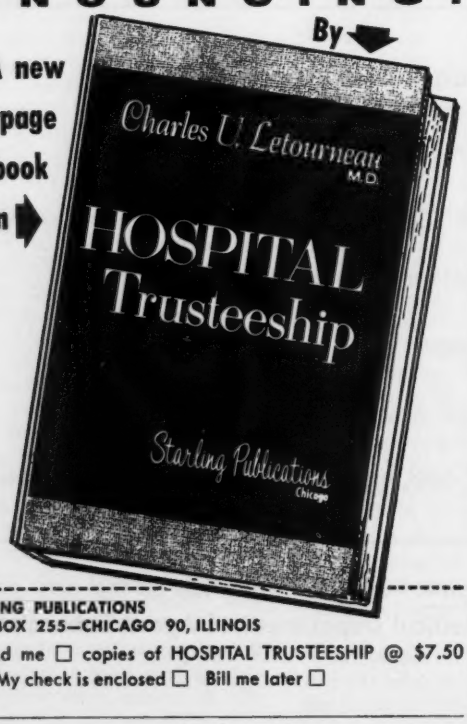

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Continued from page 30

only very recently qualified) to make up a solution, the preparation of which called for special skill and experience.

Much more often, when a hospital is sued for negligence, it is alleged that they were responsible vicariously for the acts or omissions of members of the staff. This raises the difficult question of how far a hospital can be regarded as liable for the conduct of such members.

As long ago as 1909 in *Hillyer v. The Governors of St. Bartholomew's Hospital*[4], a patient sustained a burn from a hot water bottle while undergoing an examination under anesthetic. There were present a consulting surgeon, an assistant surgeon, a house surgeon, an anesthetist, three nurses and two porters. The judge would not allow the case to go to the jury, because, he said, there was no evidence as to which of the persons present was actually responsible for the damage. In any case, the hospital could not be held liable for anything done by members of the theatre team. This decision was upheld in the Court of Appeal, where Lord Justice Farwell expressed the view that the hospital could not be held responsible for the acts or omissions of the surgeon or his anesthetist, his assistant, or his house surgeon, because they were all professional men and not servants of the hospital and, as for the nurses and porters, they were under the control of the surgeon at all material times. "*As soon as the door of the theatre had closed on them,*" said Lord Justice Farwell, "*for the purpose of the operation they cease to be under the orders of the hospital and come under the sole orders of the surgeon until the whole operation has been completely finished; the surgeon is for the time being supreme, and the hospital cannot interfere with or gainsay his orders.*"

In the same case Lord Justice Kennedy went even further in absolving the hospital from all liability. He said that the only duty of the hospital was to provide competent staff and proper appliances and apparatus. It could not be held responsible for the way members of the staff behaved in their use of these things.

This case has been quoted and discussed many times since it was decided, and has now been completely over-ruled. The first serious challenge to the principles of Hillyer's case came in 1942, when the case of *Gold v. Essex County Council*[5] came before the courts. Here the claimant, Gold, was alleged to have been injured by the negligence of a radiographer holding a whole-time appointment in a hospital owned and managed by the Essex County Council.

The argument was advanced that in a company operating aircraft it would be quite wrong for the directors personally to pilot the machines —indeed it would be a criminal offence for them to do so, unless they happened to hold proper pilots' licenses. They were bound to employ highly skilled persons to do the work, just as a hospital engaged highly qualified people to carry out professional work. There could be no doubt that the aircraft company would be held liable for the negligence of its pilots, and so, it was argued, should the hospital authority be held liable for any negligence of members of the hospital staff. But the Court drew a distinction between members of the consultant staff—who were held to be independent contractors—and members of the junior staff, or the skilled technicians, including a radiographer.

In whole-time employment the former class were not to be regarded as servants of the hospital, but the latter were so, and hence the hospital was liable for their negligence.

The next step forward came in the case of *Roe v. Ministry of Health*[6]. Here a patient was seriously injured by injection into the spinal canal of anesthetic solution which had become contaminated with carbolic acid. The injection was made by a visiting anesthetist of great experience and possessing high qualifications. The damage arose through a defect in some glass ampoules which could not have been foreseen at that time. The trial judge, Mr. Justice McNair, held that the hospital was not responsible, because the rule established in the case of Gold was that liability would not lie if the act in question had been performed by a member of the visiting consultant staff. The case went to appeal and in the Court of Appeal the decision was reversed.

Lord Justice Denning said, "*I think the hospital authorities are responsible for the whole of their staff, not only for nurses and doctors, but also for the anesthetists and the surgeons. It does not matter whether they are permanent or temporary, resident or visiting, whole time or part time. The hospital authorities are responsible for all of them. The only exception is the case of consultants or anesthetists selected and employed by the patient himself.*"

A patient who claims to have suffered injury while undergoing investigation or treatment at a hospital may sue the hospital, or the individual practitioner who carried out the investigation or treatment, or both together. If he sues only one of these parties and succeeds in his claim, the defendant might claim an indemnity against the other party. Thus, if the hospital authority was found to be liable to pay damages to the patient, the hospital authority might then claim a refund of the damages from the doctor or other officer of the hospital whose negligence led to the damage.

In 1949 the Ministry of Health issued instructions to the hospital authorities under its control that, where an action of this kind was brought against the hospital and the doctor jointly, the hospital was not to undertake the defence of the doctor; while if damages were awarded against the hospital on the ground that they were responsible for the negligence of the doctor employed by them, then they, the hospital authorities, must claim a contribution, in whole or in part, from the doctor, of the sum awarded. This arrangement is still in force where the doctor is not a member of a defence society.

Naturally, this scheme led to a good deal of difficulty, since there was a divergence of interest between the hospital authority and the member of the staff concerned, each seeking to put the burden of the defence on the other or, at least, to transfer the liability to pay damages.

In March, 1954 the Ministry issued another circular to its hospital authorities directing them to adopt a "*Fully cooperative attitude — from the beginning*" in handling claims for negligence against themselves and members of their staff with "*Full consultation at the request of either party in the formulation of*

[4]1909, 2K.B. 820

[5]1942, 2K.B. 293

[6]1954, 2K.B. 66

Please turn to page 70

Hospital Pharmacy of the Future

by Kenneth R. Nelson, M.D.

■ THE INTRIGUING SUBJECT, "Hospital Pharmacy of the Future" suggests to me four or five items, each of which in its own area seems to sum up the direction, and some of the problems toward which we are heading in connection with pharmacy service in hospitals.

The potential increase in prescription volume in hospitals suggested by the Rorem Study is the foundation upon which my thinking regarding future hospital pharmacy is based.

This report, made by the Hospital Council of Philadelphia, deals with privately owned hospitals which rent space to medical staff members. The hospitals involved are the nonprofit, voluntary ones, those most prevalent in the country after we exclude the government-owned hospitals (Federal, State, City and County).

The Rorem Study covered 29 States. The findings were released early in the fall of 1958. In essence, the findings indicate that hospitals are, more and more, renting space to physicians for use as offices in conducting their private practice. Dr. Rorem states that because both hospitals and physicians find important advantages in such assignments, the trend is expected to become even stronger in the years to come. The importance of this to hospital pharmacy is that more and more it becomes inevitable that prescriptions of private patients of these physicians will be filled in the hospital pharmacy.

In 1955 George F. Archambault, at the Rutgers National Pharmacy Conference, predicted this when he stated, *"In my opinion, the American people are insisting more and more on the right to purchase their normal medical care in a better, more convenient and simpler package than in the past, a one-stop package, if you please, where they receive laboratory work-up, x-ray and prescription service under the same roof where they are diagnosed and treated."*

As a result of this development, strong conflicts between the hospital pharmacists and their colleagues, the community pharmacy practitioners, may develop. Already there are indications that battle lines are being drawn on such points as the tax status of hospitals who rent property in this fashion to physicians, or who fill prescriptions of these physicians. The community practitioners of pharmacy, whose tax funds or contributions support these hospitals, believe that this is being done at their expense. How hospitals and pharmacists will resolve this problem of social evolution, only time will tell.

Larger Pharmacies

The drug industry surveys now indicate that somewhere between 25 and 30 percent of the domestic drug volume is handled by the 7,000 hospitals of the country, and 70 to 75 percent of the volume by the 53,000 community pharmacies. Hospital pharmacy is now *"big business."* Think of it—hospital pharmacy now accounts for over 25 percent of the domestic dollar value of the drug trade. Wyeth's vice president, Stuart Smith, in speaking to the recent National Conference of the Association of Chain Drug Stores, stated that prescription volume in the United States was 1.0 billion dollars in 1955; 1.6 billion dollars in 1957; and, he predicted, will go to 2.5 billion dollars by 1965. Mr. Smith stated that most hospitals are operating *"in the red."* The three departments that most frequently *"make money"* for the hospital, he pointed out, are the laboratory, x-ray and pharmacy. Some time in the future, he stated, hospitals must *break even* and the pre-

Please turn to page 125

Kenneth R. Nelson, M.D.

I see—

+More individual patient prescriptions coming to the hospital pharmacy.

+Hospital pharmacies carrying 35 to 40 percent of total domestic drug sales volume.

+Hospital pharmacists becoming drug therapy consultants.

Dr. Nelson is Assistant Surgeon General, Chief, Division of Hospitals Bureau of Medical Services Public Health Service, Department of Health, Education, and Welfare, Washington, D. C.

Presented at annual meeting of The American Association for the Advancement of Science, Washington, D. C., December 1958.

Pharmaceutical Detailman — Liability or Asset?

by William E. Hassan, Jr.

■ EACH YEAR the pharmaceutical industry budgets millions of dollars for the purpose of promoting their products. A sizeable portion of this allocation is devoted to providing the profession with well-trained detailmen or medical service representatives. One of the duties of these people is to carry on a large scale educational program relative to the use of the latest therapeutic agents.

In order to carry on this program and to service hospital inventory requirements, it is necessary for the manufacturers' representatives to make periodic visits to the pharmacy. Faced with a heavy workload, a shortage of staff, or an unforseen event, the pharamcist is prone to dismiss him with an *"I'll see you the next time around."* In other instances, the visit of the detailman is taken too lightly and the time devoted to the interview is rapidly utilized with needless *"chit-chat."*

After careful consideration of the above cases, it should be clear to all concerned that the loser is mainly the hospital pharmacist. Often, he does not avail himself of the opportunity to draw upon the specialized knowledge of the detailman.

There are many ways in which this loss of time and money can be avoided. Those most commonly employed are to arrange the detailman's visit on an appointment only basis, the use of a product information sheet, and the development of a controlled method of allowing demonstration and sales promotional displays within the hospital.

While is is relatively easy for the pharmacist to Schedule Appointments, it may place an undue hardship upon the representative unless the scheduling is given some forethought.

One method of scheduling appointments is to divide the list of detailmen into three categories:

1. Those on a monthly basis.
2. Those on a bi-weekly basis.
3. Those to be interviewed whenever they are in the territory.

For each representative in the first two categories a definite time is assigned which should coincide with the hours he expects to be in the particular section of the community in which the hospital is located. Once the system is established it behooves each party to be prompt and when necessary to cancel the appointment in advance.

Representatives in the third category must realize that they are being accorded a special privilege. They therefore have special obligations. These are relatively simple. All that they entail is the courtesy of notifying the pharmacist in advance of the approximate date and hour of the intended visit and, conversely, of the pharmacist's inability to be present for a scheduled interview. Either of the above can easily be accomplished by postcard or telephone.

Utilize Time

Having established the routine for visitation, the pharmacist should use the time to best advantage. The nature of the division of time and the nature of the topics to be discussed rests with the pharmacist and the detailman. As a guide, the allocated

Guides for Conducting Displays or Exhibits

Name _____ Mgf. _____

Generic Name _____

Chemical Name _____

Synonyms

Composition (if a combination) _____ _____

Therapeutic Uses

Contraindications and Cautions

Toxicology and Antidote

Dosage & Administration

Forms Available

Similar Products

Package, Sizes & Prices

This Space Reserved For Pharmacy Committee

Literature Yes ____ Yes ____

Samples No ____ No ____

Date _____

Figure 1. Product Information Sheet

Assistant Director, Peter Bent Brigham Hospital, Boston, Massachusetts Professional Lecturer on Hospital Pharmacy Massachusetts College of Pharmacy.

time may be divided into two divisions: (1) to discuss the inventory needs, and (2) new product information. It is in connection with the latter that the greatest amount of time can be saved. This can be accomplished through the use of a Product Information Sheet (*figure 1*). This information can be recorded by the pharmacist as he is being "detailed" by the representative. Since the information is concise and readily available for reference it is a valuable quick reference sheet for the pharmacy staff. Also, it is a rapid source of information during the discussion of new drugs at a pharmacy commitee meeting.

Promotional Displays

The sponsoring of sales promotional displays within the hospital by pharmaceutical and medical supply representatives can be a very interesting and worthwhile venture if properly controlled and supervised. A relatively simple way to regulate these displays is to prepare a set of rules and regulations, an application form requesting permission for a display and place the authority to grant and supervise the exhibit to the pharmacist-in-chief. The rules for conducting the exhibit vary with each institution. Here are some suggestions for such rules:

I (We) do hereby agree to abide by the rules and regulations covering displays in the hospital, and request the following date to present the items listed below for display.

Date of Application _____

Company _____

Representative(s) covering Display _____

_____

Display Date Requested

1st Choice _____

2nd Choice _____

Do you need a table? ( )No. ( )Yes.

Products to be displayed:

1. _____

2. _____

3. _____

4. _____

Display Approved By

_____

Pharmacist-in-Chief

Date: _____

Please prepare in duplicate. Return both copies to the pharmacy. The approved original application will be returned to you and is your authorization to conduct the display.

Figure 2. Request for Display

The Request For Display forms *(figure 2)* should always be used because they serve a number of valuable control purposes. From the completed form, the pharmacist will be able to determine exactly what is to be displayed, and who is going to supervise the display. Reference to the application form at any time during the year will enable the pharmacist to determine whether or not the display of any particular product coincided with its increased usage rate, the frequency of the display request from any particular firm, and the frequency which an individual therapeutic category was displayed.

After having used this program for two years, an informal survey of the opinions of 27 pharmaceutical and medical supply representatives was conducted. Of this group 21 felt that the scheduling of appointments was a great time saver for them as well as the man they were calling upon. Nine of 16 pharmaceutical detailmen felt that when given the time, they provided all of the information on the Product Information Sheet in the oral detail or in the literature which they left behind.

All 27 representatives agreed that the Rules and Regulations governing a display as well as the Application for Display Form were of value to them in planning their exhibitions and insured equal opportunity for all. As a result of initiating this program, the pharmacist will be able to devote the time necessary to once again become a *"student"* while the detailman *"lectures"* on a subject of mutual interest. At the conclusion of the *"lecture"* the pharmacist then reverts back to his role as drug advisor to the hospital's professional staff. ■

1. Demonstration and sales promotional displays by pharmaceutical and hospital supply representatives may be arranged by completing and having approved the "Request For Display Form" available from the pharmacy.

2. Displays or exhibits, for which application is made in the pharmacy, must be of a professional and ethical nature and must be related to hospital function.

3. All displays, not to exceed one per week, are presented in the staff room. Special group meetings, including film presentations, require arrangement through the executive offices.

4. Sales representatives and exhibitors are not permitted entrance to the various hospital departments without administrative approval: this includes the clinics, nursing stations, pavilions and operating suite.

5. Exhibitors must remain by their displays, and shall not solicit orders or approach persons who do not wish to view the display.

6. Distribution of advertising in the form of samples and brochures must be confined to the display area, and only during the time reserved for the display or exhibit. Distribution of prescription legend items is allowed to physicians only.

7. Notices of any kind are not to be posted throughout the hospital by any exhibitor.

8. Displays and exhibits of each supplier are limited to two annually, and each to one-half day from 9:00 a.m. to 1:00 p.m.

9. Pharmaceutical products to be displayed are limited to those officially included in the latest revisions and supplements of the hospital formulary or those products accepted by the therapeutics committee for clinical trial in the hospital.

By G.A.W. Currie, M.D. and F.W. Hunnisett, B.A.

An Infection Committee That Works

■ WITH THE APPROVAL of the Board of Trustees and the Medical Advisory Committee an Infection Committee was formed at Toronto's 609-bed Hospital for Sick Children in June, 1958. A generous grant from the hospital's board of trustees assured its continuance for at least six months with a promise of additional funds if necessary for a longer period. The Committee is composed of the hospital's bacteriologist as chairman and representatives from medicine, surgery, nursing, medical records and administration.

The Committee was formed for four main reasons.

1) During November and December, 1956, a survey was made of staphylococcal infections in 1,121 surgical patients. As a result of this survey it was felt that the study should be enlarged to encompass all nosocomial infections whether surgical or medical.

2) The Joint Committee on the Accreditation of Hospitals has recommended that an Infection Committee be formed in every accredited hospital.

3) There was a very real desire by the medical and administrative staffs to do everything possible to record the types of infections acquired in the hospital, to ascertain the areas in which the infection occurred and finally to make recommendations to make changes in techniques and physical layout if necessary to prevent and reduce such infections.

4) A request was received from the Associate Committee on Control of Hospital Infections of the National Research Council of Canada that each hospital in Canada undertake to collect data for 12 months on the incidence of staphylococcal infec-

Dr. Currie is superintendent, and Mr. Hunnisett is administrative assistant at The Hospital for Sick Children, Toronto, Canada.

How to collect data

How to sort data

How to interpret data

Figure 1. A simplified form for collecting data for use in the I.B.M. machine.

Numbered boxes — corresponding to I.B.M. Columns

1 - 6	Actual Hospital History Number
7 -	Sex - "1" denotes male ("2" female)
8 - 10	Age - Numbers 8 - 9 are raw age numbers - i.e. patient is 6 years old. (In box 10 "3" indicates years, "2" would indicate months and "1" would indicates days.) Thus this patient is 06 years old.
11 - 12	Indicates ward 6A (1 - A; 2 - B, etc.) to which the patient was assigned at time of admission.
14 - 15) 17 - 18)	If the patient had been moved figures indicate the wards to which the patient had been moved.
19 -	The number of transfers - - - "0" indicating not transferred
20 -	Figure "1" indicates the first operation was performed on the 1st day after admission.
22 -	Number of operations performed.
23 - 24	Indicates the total days stay - namely 12
25 - 28	International coding for the principal diagnosis (i.e. old burns to neck and trunk).
29 - 32	Coding for the secondary diagnosis (i.e. hydrocephalus)
33 - 36	Coding for the complication i.e. the hospital acquired infection - tonsillitis.
37 - 42	The first and only operation - skin graft to chest and axilla.
49 - 70	The coding is simple to follow - for example section 49 in which the figure "7" appears indicates that an infection developed during the present admission, etc.

904032 614830
BROWN JOHN
4 - 2 - 59 1 PM
OLD BURN
30 - 1 - 53 M PUB
DR E M JONES

HISTORY NUMBER [1 6 2 1 3 4 4 8 5 3 6 0] SEX [7 1] AGE [8 0 9 6 10 3]

1st WARD [11 6 12 1] 1st TEAM [13 8] 2nd WARD [14 0 15 0] 2nd TEAM [16 0] 3rd WARD [17 0 18 0]

TRANSFERS [19 0] HOSP. DAY 1st OP. [20 1] HOSP. DAY 2nd OP. [21 0] OPS. [22 1] TOTAL DAYS STAY [23 1 24 6]

PRINC. DIAG. Old burns to neck and trunk [25 26 7 27 1 28 6]

SECOND. DIAG. Hydrocephalus [29 30 7 31 5 32 2]

COMPLICATION Tonsillitis. [33 34 4 35 7 36 3]

FIRST OPERAT. Skin graft to chest and axilla [37 0 38 3 39 4 40 5 41 1 42]

SECOND OPERAT. [43 44 45 46 47 48]

GENERAL CLASSIFICATION A [49 7]
1. No infect. at any time
2. Infect. present on adm. but not staph & not related to prev. adm. to HSC
3. Staph on adm. No relation to prior hospitalization
4. Staph on adm. Related to prior admission in other hospital
5. Ditto, but in HSC
6. Other than staph. Related to prior adm. to HSC & readmitted
7. Any developing dur. pres. adm.
8. Reported following discharge and not readmitted
9. Infection reported in members of staff

GENERAL CLASSIFICATION B [50 4]
1. N.A. Admitted with infection. No prior adm. to HSC. Certain infections in staff, etc.
SURGICAL SERVICE
2. Post-op. wound following SOR
3. " " " not related to SOR, -- outdown, etc.
4. Not wound inf. but possibly related to SOR, Recov. R., etc.
5. Not wound. Unrel. to any op.
MEDICAL SERVICE
6. Wound inf. but not related to SOR -- cutdown or ward proc.
7. Unrelated to any operation
8. Others

SIGNIFICANT WARD [51 6 52 2 53 7]
00. N.A.

PROBABLE SOURCE OF INFECTION OTHER THAN WOUND
1. N.A. Admitted w. infection & no prior admission to HSC
2. Unknown
3. Exposure in home
4. Exposure in other hospital
5. Exposure in HSC this admission, known contact likely
6. Ditto, but prior admission
7. Other

TYPE OF INFECTION [54 1 55 4]
11. N.A.
12. Wound infect.
13. Pneum. & seq.
14. U.R.I.
15. Infect. of skin exc. burn of skin or under cast
16. Infected burn
17. Skin irr. or inf. und. cast
18. Absc. of deeper soft tissue
19. Diarrhoeal disease
20. G.U. infection
22. Conjunctiva
23. Bone & joint infection
24. Pyraxia of unknown origin
25. Septicemia proven etiology
26. Specific comm. disease
27. Multiple
28. Other

CAUSE OF INFECTIONS [56 1 57 3]
11. No culture. No speculation
12. Culture negative. No speculation
13. Non-specific type. No culture Chiefly respiratory & diarrh.
14. Ditto, deapite culture
15. Proven pure staphylococcus
16. Proven staph but mixed
17. Likely staph. No cultures
18. " " Neg. cultures
19. Coli etc. unmix., tissue inf.
22. " " w. anaerob. " "
23. Pneumo. or hemolytic strep.
24. Salmonella
25. Shigella
26. Enteropathogenic Coli
27. Dubious coliforms for diarrh.
28. Others not classif. above
29. A.biotic with replaced flora
32. A.biotic with normal flora
33. A.biotic but no stool culture
34. Monilia or thrush
35. Measles
36. Chicken pox
37. Other viral commun. disease
38. Other specif. bacterial inf.

SEVERITY OF INFECTION [58 6]
1. N.A.
2. Doubtful inf. or carrier
3. Probably only dehiscence -- for wound
4. Definite but minor, trivial, or reddening of wound only
5. Mild or somewhat purulent
6. Troublesome or purulent
7. Severe or major breakdown of wound, purulent
8. Dangerous & serious, or syst. extensions from wound
9. Fatal

POST-OP. WOUND INFECTION -- SITE [59 1]
1. N.A.
2. Clean elective
3. " respiratory tract
4. " perineum, etc.
5. " abdominal viscus
6. Possible pre-operative contamination. Other
7. Pre-operative contamination from peritonitis
8. Pre-op. infection at site
9. Known skin infection elsewhere

DAYS FOLL. OPERATION -- WOUND INFECTION [60 1]
1. N.A.
2. One or two days
3-8 Raw numbers
9. Nine or more days

DAYS FOLLOWING ADMISSION IF DEVELOPED IN HOSPITAL [61 5]
1. N.A.
2. One to two days
3. Three to five days
4. Six to nine days
5. Ten to fourteen days
6. Fifteen to twenty days
7. Twenty-one to twenty-seven days
8. Twenty-eight days plus

DAYS FOLLOWING DISCHARGE FROM HSC [62 0]
(see 61)

DATE OF ONSET OF INFECTION -- OTHER THAN WOUNDS [63 1 64 4 65 0 66 2]
0000. N.A.
RAW NO. (63 & 64) day of mon. (65 & 66) month

STAPH., A.BIOTIC SENSITIV. [67 0]
(not fully sens. = resist.
0. N.A.
1. Not done or no culture
2. Sens. to penicil., tetracycline, chloromycetin & erythromycin
3. Resistant to penicillin only
4. Resist. to Penic. & tetracycl.
5. " " " " " & erythromycin
6. As above plus chloromycetin
7. Sensitive to penicillin, resistant to erythromycin
8. Sensitive to penicillin, resistant to chloromycetin
9. Other pattern

ANTIBIOTIC USED IN TREATMENT OF INFECTION [68 4]
1. None
2. Sulfa only
3. Penicillin only
4. Penicillin with one other
5. Penic., chloromy. & erythromy.
6. Chloromycetin & erythromycin
7. Three or more with penicillin
8. " " " without "

ANTIBIOTIC USED IN PATIENT PRIOR TO INFECTION [69 1]
(see 68)

GENERAL ESTIMATE OF RESULT OF INFECTION [70 3]
1. N.A.
2. Not possible or necessary to evaluate
3. Normal convalescence
4. Prolonged convalescence

[71] [72] [73] [74]

THE HOSPITAL FOR SICK CHILDREN

NAME John Smith
DIAGNOSIS old Burn
PHYSICIAN OR SURGEON Dr E M Jones
INFECTED ✓ ON ADM ACQUIRED ✓
DATE OF DISCHARGE

Feb. 20/59

904032 614830
BROWN JOHN
4 - 2 - 59 1PM
OLD BURN
30 - 1 - 53 M PUB
DR E M JONES

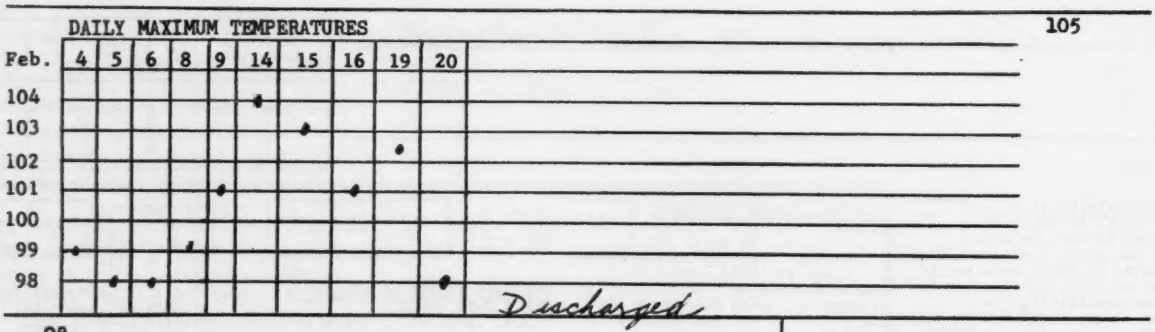
DATES OF PREVIOUS ADMISSION TO THIS OR ANY OTHER HOSPITAL

None in this Hospital
Two years previously for burns in another hospital

MAJOR CONDITIONS TREATED DURING THIS ADMISSION

Old burn to neck and trunk.

DAILY MAXIMUM TEMPERATURES



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PROCEDURES OR SURGICAL OPERATIONS

Skin graft to chest and axilla

DATE PERFORMED

Feb. 6/59

NATURE OF INFECTION

Tonsillitis

DEGREE OF INFECTION

DATE FIRST NOTED

Feb 14/59

PROBABLE SOURCE Probably on Ward

CULTURES DATE SENT

BACTERIOLOGICAL RESULTS

ANTIBIOTICS ADMINISTERED

Diucryptocin Feb. 14. Feb. 19
Erythromycin Feb. 19. 20

Figure 2. Work sheet for recording data about nosocomial infections.

tions acquired or developing in the hospital.

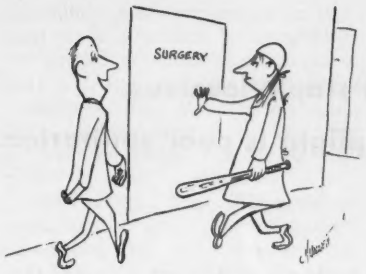
The Committee's terms of reference are *"To collect reliable data on the incidence of hospital acquired infections in our hospital and to study the reasons for such infections and the best practical means of preventing them."*

This paper deals with the administrative aspects of this problem, e.g. how to collect the data, how to sort the data, how to interpret the data for its maximum use acting on the recommendations put forth by the committee. These are the aspects of the problem with which we are concerned.

The committee agreed that the data could best be gathered and recorded by a Registered Nurse. Fortunately, a former head nurse who was interested in the problem of infection and who knew the hospital was available. After a few weeks it became apparent that it would not be possible for one person to record the data on approximately 23,000 annual admissions so a second Registered Nurse was engaged.

The committee decided to record the data in such a way that it would be possible to transfer it to punch cards and have it sorted in a variety of ways. The hospital had previously installed an I.B.M. punch card system which could be used for the purpose. In order to be useful and realistic the data collected should be all inclusive; information must be gathered on all patients admitted so as to set up norms. The next step would be to gather additional data on patients who acquired infection while in hospital. Thus, a combination of human methods (registered nurses) and technological methods (I.B.M. equipment) could be used to gather, record and sort data which would then be interpreted and result in recommended changes in techniques and physical lay-out of certain area.

It was obvious that as the committee was venturing into a new field of recording medical statistics, the "trial and error method" would have to be used. A form was designed with 80 spaces (to correspond to the 80 columns on an I.B.M. punch card) on which coded information was recorded on each patient at the time of admission and throughout his hospital stay. After a trial period of one month recording data and following the first "sort" of the punch cards, it was obvious that too much valuable time of the nurses was being used to



Anesthetist late again, doctor?

merely establish norms. For example, if a patient did not acquire infection much of the information contained in the data sheet was not necessary.

The committee was, at the outset, fearful that by making the basic data taken on each patient too simple it would not be possible to establish norms and therefore comparisons and "sorts" for various data would not be available. In consultation with the Infection Committee the nurses and the director of medical records a more simplified form was designed (*figure 1*). This form utilizes 70 of the possible columns on an I.B.M. Punch Card. Spaces 1 — 48 are filled out for every patient as far as possible shortly after admission by the Infection Committee Nurses who visit all wards daily. Space 49 is also filled out for every patient but at the time of discharge. If the patient acquires infection while in hospital, notes are made on the work sheet (*figure 2*). When the patient is discharged this additional information is transferred to the data sheet (*figure 1*) by using spaces 50 through 70. These sheets are then forwarded to the machine accounting department for transfer to punch cards. The work sheets are filed for future reference if required.

Some explanation of the coded information on patient "John Brown" detailed on the data sheet is illustrated.

The type and scope of information made which can be made available by an electrical statistical machine and a card counting sorter is very extensive. For example the simplest type of sort would be one of the items such as "complication" numbers 29, 30, 31, 32 — that is if one piece of information was required then only one sort would be necessary. However, it is possible by a "sequential sort" to obtain as many as 15 different pieces of information on the one patient. It might be useful for example to know how many patients 6 years of age admitted to ward 6B and not moved to another ward on whom an operation was performed, subsequently acquired tonsillitis while in hospital, what was the cause of the infection and its severity, how many days following admission the infection occurred and the type of antibiotic used in the treatment of the infection and the estimate of result of the infection. The combination of sorts is almost limitless depending on just what information is required.

While it is the plan of the Infection Committee to carry on this fact-finding survey during the first six months of 1959 and probably for the entire year certain benefits of the survey have already become apparent.

1) The use of punch cards for the recording and sorting of medical statistics is both useful and practical. This is the first time in which The Hospital for Sick Children has used this facility on any hospital-wide basis. It points the way to the possible widespread use of such equipment in the field of medical records and statistics.

2) Discussion at the meetings of the Infection Committee has aroused a great deal of interest in the control of infection not only by the members of the committee but in the departments which they represent.

3) A number of recommendations have been made to the Medical Advisory Committee for changes in one ward in particular in which the rate of infection appears to be higher than it should be. While this has been suspected for some time it is only since actual comparative figures have been made available by the Infection Committee that a definite recommendation could be made supported by facts and figures. It is expected that as the survey continues and additional comparative figures are made available that more recommendations will be made supported by these figures.

The foregoing story is only the beginning. The finale cannot be written until all the recommendations arising from the facts have been acted upon and the rate of infection thereby reduced. Sometime after the present survey is completed another survey will have to be made for the purpose of comparing the rate of hospital acquired infection now and then. Meanwhile an exciting chapter is being written in the history of The Hospital for Sick Children by "An Infection Committee That Works." ■

The real villain is not the staphylococcus.

The cause of our present plight is poor sanitation.

Hospital Sanitation

by Charles U. Letourneau, M.D.

Part I

■ THE OUTCRY about staphyloccal infections in hospitals raises the important question of the basic causes of the increased infection rate in hospitals. The answer is relatively simple. The problem of nosocomial infections is one of sanitation rather than some unfortunate phenomenon which God has visited upon us. Hospital sanitation has always been a problem. In the latter portion of the eighteenth century, John Howard, the celebrated prison reformer visited many hospitals and commented at length on their lack of cleanliness. His classical eye witness account of the hospital of St. John of Jerusalem in Malta paints a picture of hospitals at that time. He wrote that, "the wards were all so dirty and offensive as to create the necessity of perfuming them."

He advocated fresh air, cleanliness, water and washing the walls with lime. He praised clean hospitals and condemned dirty ones. For example, he commented favorably upon the water closets which he found in Guy's Hospital in 1786. The sanitation of the hospital, then as now, depended to a large extent upon the medical philosophy of the time. This was the era of "laudable pus" and the stench was a by-product of the medical treatment which encouraged the formation of pus. Almost everyone admitted to a hospital could expect to become the victim of nosocomial infection. In modern times, the unfortunate reliance of some physicians upon antibiotics instead of asepsis has created a similar, though less offensive, situation in our hospitals.

It was around 1850 that the theory of "laudable pus" fell into disrepute with a consequent improvement in the quality of the people who served the patients in hospitals. During the era of "laudable pus" only the poorest type of people could be found to work in such a fetid atmosphere.

Early Sanitation Efforts

In 1835 Oliver Wendell Holmes found that patient infection was greatly reduced when he washed his hands in a chloride of lime solution between patients. In 1847 Semmelweiss was able to reduce hospital infections by dipping his hands in a chlorine solution before examining the next patient. About 1850 Florence Nightingale began to put into effect the recommendations which John Howard had made some 70 years before and added a few of her own measures of cleanliness. The celebrated Lord Lister, in 1865, used a five percent solution of carbolic acid on his instruments and used a skin preparation of two and one-half percent carbolic acid on his patients before operation. He later changed to a solution of mercuric cyanide. The German surgeon Von Bergmann used bichloride of mercury in 1882 and this disinfectant remained popular for more than 50 years afterwards.

The smell of carbolic acid became identified with hospitals and created a psychological impression of cleanliness. To this scent was later added iodoform which marked indelibly all who worked in hospitals so that they could be picked out easily in a crowd. These hospital smells were very reassuring but they only masked the dirt just as perfume had done in the days of John Howard. This was the era of antisepsis which gradually gave way to asepsis—the era of cleanliness. Asepsis was mainly due to the influence of the disciples of Florence Nightingale who popularized the fact that clean surfaces do not smell.

At the turn of the century everyone who entered the nursing profession was indoctrinated with the importance of cleanliness. For nearly 50 years, probationers learning to be nurses were handed a bucket and scrub brush and made to clean the floors as a part of their earliest discipline. Nor was this policy confined only to nurses. Some hospitals began the apprenticeship of surgical interns and residents with a tour of floor scrubbing in the operating room and the surgical suite. These experiences left lasting impressions upon surgeons and nurses. Many today deplore the tendency of professional training to abolish these object lessons. It is undeniable that physicians and nurses are much less conscious today about the need for cleanliness than they were 30 years ago.

Sulfonamides and Antibiotics

In the period immediately preceding World War II, hospitals

Presented at the Klenzade Seminar in Sun Valley, Idaho, April 2, 1959.

were probably the cleanest that they have ever been in history. Cross-infections were held to the minimum. Sterile and aseptic techniques were highly developed. The discovery of sulfonamides and their action on bacteria in 1936 initiated a period of laxity in hospital sanitation which was aggravated by the discovery of antibiotics in 1943. World War II also left hospitals with a personnel shortage and a consequent deterioration in cleanliness. It became fashionable in the immediate post-war period to prevent cross-infections by prophylactic "shots" of antibiotics instead of maintaining a high standard of cleanliness. This practice undoubtedly cut down payroll but the price of poor sanitation had to be paid sooner or later.

Concurrently with this development was a laxity in pest control occasioned by the discovery of D.D.T. during World War II. About the year 1951, reports began to appear in scientific journals concerning resistance of certain insects to D.D.T. Shortly afterwards certain bacteria were identified as resistant to penicillin. Among these resistant bacteria was the *Staphylococcus pyogenes aureus* soon glamorized as the "golden villain" in a national consumer magazine. The real villain was not the *staphylococcus.* The cause of our present plight is poor sanitation. ■

Part II next month will discuss ways and means of correcting the problems of poor sanitation.

Microbiology of Nosocomial Infections

■ NOSOCOMIAL INFECTIONS are not by any means confined to one or two infectious agents. Many types of pathogenic microorganisms can be transmitted to a person who has been previously free from such invasion. Such pathogens are a menace to physicians, employees and patients alike, but they are most dangerous to people who are in a weakened condition.

Most publicized agent of nosocomial infection is the *Staphylococcus aureus* which has been the subject of many articles in professional, trade and consumer magazines. Because this microorganism has developed a resistance to some antibiotics, it has become a serious potential killer of people who are in a weakened or debilitated state.

The *staphylococcus* is responsible for boils, pimples, pyoderma of the newborn, wound abscesses, infections of the bladder and genitourinary tract and many other purulent conditions. It is carried in the throat by carriers who may not suffer from its effects but are capable of transmitting it to other persons who may be susceptible to its ravages.

Streptococci are more sensitive to antibiotics but are easily transmissible from one person to another in the hospital. The streptococcus was, at one time, the most dreaded cause of *puerperal sepsis* (childbed fever) and accounted for many deaths at childbirth. It is also the cause of septic sore throat, scarlet fever and endocarditis (heart disease). Children are particularly susceptible to this bacteria.

Coliform bacteria can also become resistant to drugs and are transmissible rapidly from one person to another. They are the cause of *pyelitis,* especially in the newborn.

Dysentery bacteria have been reported as the causes of epidemic diarrhea in some hospitals. From time to time deaths have occurred in the nursery due to bacillary dysentery. These are completely unnecessary and are due to faulty hygiene. They are avoidable.

Food-borne dysentery became the subject of a celebrated lawsuit in Tennessee. Evidence showed that the kitchen was unscreened, located close to public toilets and to a laboratory where fecal material was being tested. The addition of swarms of flies which commuted regularly between the exposed food, the toilets and the laboratory supplied the necessary ingredients for nosocomial infection. The hospital was held liable in damages.

A case was reported of a nosocomial infection caused by *Pseudomonas aeruginosa* which grew lustily in a well-known quartenary ammonium disinfectant. This microorganism was the cause of septicemia.

Tuberculosis has been identified on several occasions as the cause of disease in hospital employees who acquire it from patients suffering from the disease. Tuberculosis is a compensable disease in hospital employees in some states.

The *virus of hepatitis* is now a well-recognized nosocomial infection in hospital employees. It is also an occupational hazard which is acquired from patients through faulty techniques. Laboratory and laundry workers are the most exposed but it is so highly infectious that nurses, therapists and anyone who comes into contact with an infected patient can succumb to it.

Cases have been reported in England where *tetanus* and *gas gangrene* were acquired in the operating room and resulted in death. Evidence produced in coroner's court proved beyond a doubt that the bacteria had existed for a long time on the operating room floors and had been transmitted to a clean wound through faulty techniques.

Fungous disease can also be acquired in hospitals. In the nursery, there have been many reports of epidemics of stomatitis, caused by *Candida albicans.*

Another form of fungus is sometimes found in employees', nurses' and doctors' locker rooms which have not been carefully disinfected. This is the so-called *athlete's foot, pubic itch* and *ringworm* which may invade bathrooms and dormitories where poor sanitation is practiced.

Every pathogenic microorganism is potentially transmissible in the hospital setting in the presence of poor sanitary practices. The above are but a few instances of cases that have been reported. Undoubtedly there have been many more which have gone unrecorded and may even have been concealed. The answer to nosocomial infections is cleanliness and better sanitation. ■

A Purchasing Policy for Pharmaceuticals

This hospital requires each supplier to certify under oath the following:

A. The company maintains a quality control program equal to or exceeding a standard published by the hospital.

B. The ingredients meet official, national and state standards.

C. The finished product is manufactured, packaged, and handled according to official, national and state standards and that ALL finished products, official and nonofficial, conform to official tests where applicable, i.e., disintegration time for tablets, general requirement for injections, et cetera.

D. That the company in the past two years has (or has not) produced a new product and holds thereon an effective new drug application under Sections 404 and 505 of the Federal Food, Drug, and Cosmetic Act.

E. The company grants permission for a representative from the hospital to visit the company premises at any time during regular business hours for the purpose of determining compliance with provisions of items A, and B above.

F. The hospital requires that, on demand, assay data will be produced by the suppliers.

G. The hospital further requires that successful bidders must post a bond to allow the hospital to assay samples of products of questionable potency or composition at company expense.

by Herbert S. Carlin, M.Sc., and Herbert L. Flack, M.Sc.

The Pharmacist's Increased Responsibilities for Purchasing Under the Formulary System

Herbert S. Carlin

Herbert L. Flack

■ UNDER THE FORMULARY SYSTEM CONCEPT, the hospital pharmacist receives from the physician staff a blanket permission to dispense under the official or nonproprietary title any brand of identical drug or chemical agent in specific dosage form which is available as a *quality* product from more than one manufacturer. At the neighborhood pharmacy level, this blanket permission is more difficult for the pharmacist to achieve in his physician relationships and usually the pharmacist must call the physician every time he desires to dispense another brand of identical chemical agent, otherwise he must dispense only the brand specified on the prescription by the physician.

Through this blanket permission the hospital pharmacist need stock only one brand out of five *quality brands* of Tetracycline HCl Capsules U.S.P., or one brand out of at least four *quality brands* of Prednisone Tablets U.S.P. But in one listing of drug products and manufacturers, there are 37 companies offering prednisone tablets, 5 mg. each, which vary in cost from a low of $7.20 to a high of $20.88 per hundred. What factors determine a quality brand among such a number of suppliers and with the highest cost being almost 300 percent more than the lowest?

The Formulary System concept, through the *carte blanche'* permis-

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Presented to the 1958 annual meeting of the American Association for the Advancement of Science, Hospital Pharmacy Session, on December 28, 1958, at the Shoreham Hotel, Washington, D. C.

Mr. Carlin is Chief of the Education and Research Division, Pharmacy Service and Mr. Flack is Director of Pharmacy Service, Jefferson Medical College Hospital, Philadelphia 7, Pa.

sion granted by the attending staff physician, allows the hospital pharmacist to seek a quality product of ascorbic acid injection at the lowest possible cost. Checking the drug products listing one finds at least 38 suppliers of ascorbic acid injection and a price range for the 100 mg. ampul of from $6.67 to $20.44 per hundred. On formal quotation for bids, even lower prices can be obtained. What factors must be used to select a quality brand from among 38 suppliers with a price range over 300 percent above the lowest price?

Background

For many years one of the authors had stumbled with this problem and had arrived at certain conclusions which seemed acceptable to some hospital pharmacists and not worthwhile to others. At the time of the 1958 Annual Meeting of the American Society of Hospital Pharmacists, this author had the pleasure to visit the Los Angeles County General Hospital and review the pharmacy department with its outstanding director of pharmacy service, Dr. Walter Hitzelberger. This most unusual hospital pharmacy operation, with its almost two million dollars annual pharmacy purchases, set the author to inquiring about control of drug purchases and the quality of drug products received. The information acquired from Dr. Hitzelberger was most enlightening and indicated a theoretically desirable situation which also proved actually workable.

On return from the meeting, the authors conferred about the information obtained and recalled that on several occasions other pharmacists have written to them asking for data about certain local pharmaceutical manufacturers, distributors, and suppliers. Then the authors observed certain local newspaper publicity and potentially damaging statements made about hospital pharmacy practice and decided there was urgent need for formal specifications for purchase of pharmaceuticals in all hospitals and that the system adopted at the Los Angeles County General Hospital should be discussed with other hospital pharmacists. Since Dr. Hitzelberger approved of this, the authors asked to present this paper on the increased responsibilities for purchasing under the Formulary System.

Present Purchasing Practices

Hospital pharmacists purchase brand name merchandise where there is only one company manufacturing the dosage form of a specific chemical agent or drug. They may purchase this either direct from the one manufacturer, through the local wholesaler or sometimes, in order to obtain an extra discount, may purchase by special arrangement with a reputable distributor.

Where there is more than one supplier or source of the identical drug or chemical agent dosage form, the hospital pharmacist requests bids from the several suppliers, and according to good purchasing procedures should seek bids from at least three and preferably more sources. He then must decide to purchase a *quality* product at least possible cost.

Listings of Drug and Pharmaceutical Product Suppliers

A review of the classified telephone directory in any large metropolis will reveal interesting facts. In the Philadelphia classified telephone directory there is a listing titled, "Pharmaceuticals — Manufacturers." This precedes the general

Graduate Instruction and Residency in Hospital Pharmacy Administration

■ The Philadelphia College of Pharmacy and Science, the Jefferson Medical College of Philadelphia, the Jefferson Medical College Hospital, and the Veterans Administration Hospital of Philadelphia, again announce cooperative programs of residency and graduate study in hospital pharmacy administration. The continuing expansion of public and private hospital systems, increased demand for hospitalization, and other factors, have shown the need for administrative pharmacists, skilled in hospital practice, who possess specialized training, an advanced education and degree, or both.

The above institutions are making their combined facilities available each year to a limited number of qualified graduates of accredited schools of pharmacy for residency and/or graduate study. Graduates of these programs are trained to serve as directors of pharmacy service in hospitals, with highly gratifying professional work and excellent financial return.

Programs Offered

The cooperative Program in Hospital Pharmacy Administration has been designed to provide a practical educational program for persons with varying backgrounds and with varying professional aims and desires. The *complete* program of graduate instruction and residency will require a *minimum* of two academic years and the intervening summer.

A. The cooperative program involving the Philadelphia College of Pharmacy and Science, Jefferson Medical College, and Jefferson Medical College Hospital is divided into segments. The first nine months is devoted to a full-time academic program at both Colleges (September thru May). This is followed by a 12-month period as Resident in Pharmacy at the Jefferson Medical College Hospital (June thru May). During the residency phase there is a basic stipend of approximately $2,000. In addition, the resident is required to schedule his off-duty hours so that on a rotating basis one pharmacy resident will be available to provide emergency pharmaceutical and inhalation therapy service and to accept additional administrative and professional responsibilities as are required after normal hours of pharmacy service and on weekends and holidays. This extra service provides an additional $2,400, to total approximately $4,400 being received by the resident during the 12-month period. In addition, the resident receives free meals, complete medical and hospital care, and the other benefits received by the resident medical staff. A room in the pharmacy area is provided for the resident on call. Because of limited rooming accommodations at the Jefferson Medical College Hospital, it is impossible to accept women into the residency phases of the Program in Hospital Pharmacy Administration.

B. The cooperative program involving these Colleges and the Veterans Administration Hospital is an integrated program of academic work and hospital residency ex-

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listing for "Pharmacies." The manufacturers' listing shows 79 companies, of which the authors could recognize immediately 16 as nationally known manufacturers and suppliers who engage in research, then five companies which probably advertised nationally but about which the authors were not familiar with their research contributions. Then there were 58 companies which were entirely new to the authors, even though these companies had their operations headquarters in Philadelphia. A further scrutiny of this Philadelphia listing of "Pharmaceuticals-Manufacturers" indicated that some of them shared the same address and telephone number.

A review of two of the nationally available drug product and manufacturer listings indicated that there were hundreds of "pharmaceuticals manufacturers" throughout the nation. There were 37 suppliers of prednisone tablets 5 mg., and 38 suppliers of ascorbic acid injection in 100-mg. ampules. If we requested bids on ascorbic acid tablets 100 mg., we could solicit 96 companies throughout the nation and seek the lowest bid for a quality product.

What Determines A Quality Product?

All of us have had experiences where we were soliciting purchase of a drug product dosage form hoping to purchase a quality product at a good low price. All of us have been solicited by company representatives or by direct mailings where certain "competitive" products, usually official products, were available at *low* cost, in fact at "the best possible price", so we have been told.

At Jefferson, we have had the experience where Magnesia Magma U.S.P. purchased from one of these low-priced companies also assayed low — *below* the minimum of U.S.P. Why concern ourselves about a relatively minor drug like Magnesia Magma which is below the 7 percent minimum established as a legal standard? Both you and I know the answer. This is *a matter of principle.* If we compromise our principles on a relatively small point, such as providing an economy through purchase of a sub-standard Magnesia Magma, then this will be the beginning of a trend and we will conclude with no set of principles as they apply to purchasing of quality pharmaceutical products.

At Jefferson we have purchased bulk Menadione Sodium Bisulfite U.S.P. from a chemical supplier and had we not assayed the final product, we would not have been aware of the impotency of the chemical purchased. On the particular batch referred to, the potency was 60 percent for a minimum U.S.P. tolerance of 90 percent, with our desired potency for injection being 105 percent.

In both cases cited, the assay has determined what was a quality product. Can we assay all tablets, capsules, injections, and raw materials purchased? DEFINITELY NOT!

Suggested Specifications for a Purchasing Quality-Control Program

We must establish a desirable purchasing Quality Control specification policy. The authors believe that such a policy is a necessity and suggest the following basic concepts and policy statement:

I. Qualifications of Supplier

A. Purchase from manufacturers which are known to participate in research in their own institutions and which are known to support research at nonprofit institutions.

B. If possible, do not purchase from mail-order houses, distributors or agents, or where the company has no representative. Local drug wholesalers, of course, are excluded from this requirement.

C. Where there is some question as to the propriety of purchasing from a company, and where the company is conveniently located, inspect the facilities of the company while production is being carried out. Where the company is out of town, write a hospital pharmacist in that area and ask for the same facts.

II. Organoleptic Properties of the Products

A. Spot check all bulk-purchase products to observe that:
1. Tablets have not chipped or crumbled.
2. Injections have not discolored or precipitated.
3. Injection suspensions have not clumped or are too viscous.
4. Labeling is specific and correct for your institution.

B. Maintain close liaison with nursing service personnel and record all comments concerning drug dosage forms and difficulty therewith, as:
1. Difficulty in withdrawing suspensions.
2. Clogging of needle.
3. Pain of injection.
4. All items in II-A, 1, 2, 3, 4.

III. Qualitative and Quantitative Properties

A. Where there is a low-priced product, include the cost of an assay for potency in the purchase price; if this is still a low price, then purchase the product, request copy of company's assay and control data and have your own assay accomplished outside the hospital as a check. Specify this in the original purchase order, and hold invoice for payment until results of your assay corroborate those of the company and indicate a product assaying 100 percent of labeled amount or better.

B. Remember that a single assay done once on a company's product is not sufficient to justify continued purchasing of the same or other products from said company. As a pharmacist you know that in a manufacturing process, there can be variations in every batch of a product; although a reputable manufacturer will not issue a product where the variation is below a standard.

IV. General Principles

A. Where product is not satisfactory, insist on full return for credit, with manufacturer's representative assisting in packaging. Where local representative claims manufacturer will not accept return of spoiled or unusable products, write company direct. If no progress, then make no further purchases from the company.

B. When the chips are down, and the State Board of Pharmacy, or a pharmaceutical manufacturer, or your medical staff, or a complainant's lawyer is opposing you, remember that YOU, the pharmacist, are the person legally responsible for the quality of drugs purchased for your hospital. YOU alone will be held negligent.

Conclusions

Every hospital pharmacist must remember that when the chips are down, and the State Board of Pharmacy, or a pharmaceutical manufacturer, or your medical staff, or a complainant's lawyer is opposing you, that YOU, the pharmacist, are the person legally responsible for the quality of drugs purchased for your hospital. YOU ALONE will be held negligent.

The authors have presented suggested specification for a purchasing quality control program. This should give the hospital pharmacist reasonable assurance that the pharmaceuticals he purchases represent a quality product at the best possible price. The authors hope to report in the coming year on the success of such a program as established at the Jefferson Medical College Hospital. ■

The Training of Hospital Administrators in Great Britain

by R. A. Mickelwright
Principal
Hospital Administrative Staff College
London, England

WHEN THE HOSPITALS of Britain were appropriated by the Government in 1948 the need for a new approach to hospital administration was immediately apparent. The provision of a "free" service to the hospital patient was a great social advance. But the cost had to be met mainly by the Exchequer and to some extent from the weekly National Health Insurance contributions. The public demand was for still better facilities and a high standard of patient care. Ideals had to be tempered by realities and luxury in buildings, equipment and staff could not be considered. The objectives were to achieve good standards and to make the best use of the resources available.

The method of hospital administration provided under the National Health Service Act was both novel and bold. The hospitals were handed over for planning and management, on an agency basis, to boards and committees. The teaching hospitals became responsible direct to the Ministry of Health. Regional hospital boards, while being basically area planning authorities, held, on behalf of the Ministry of Health, a supervisory responsibility over the nonteaching hospitals which were under hospital management committees. The hospitals themselves were grouped together under their boards or committees according to local area circumstances and needs. New methods and techniques were, therefore, needed to meet the changed conditions and the considerations arising from governmental control. The opportunity for inquiry and research into matters of hospital administration was clear.

Before the hospitals were nationalized, training in hospital administration was limited to a small number of training posts in a few hospitals, to the arrangements made by the Institute of Hospital Administrators in their examination for the diploma in hospital administration and to the provision by King Edward's Hospital Fund for London of a limited number of bursaries in hospital administration. Otherwise men learned to become administrators "on the job".

Staff College

It was obvious that, concurrent with the advent of the new service, a fresh and more intense approach to training in administration was essential. It was to this end that, following experience gained by the bursary scheme, King Edward's Hospital Fund for London established in 1951 the Hospital Administrative Staff College. The objectives were to provide refresher courses for the most senior administrative officers in the hospital service and training courses for the younger men and women; to engage in inquiry and research into matters of hospital administration and to make the Staff College a meeting place for those interested in, or associated with, the National Health Service.

The Hospital Administrative Staff College is not embodied in the National Health Service. Yet it devotes its resources to it. "Think of the patient first" is more than a platitude; it is the basis from which the work of the Staff College starts. Buildings and equipment, business methods and skilled staff are essential. But the attitude of mind, the personal relationships and the hospital atmosphere directed to the patients' mental and physical needs must be a first consideration of administration. In these approaches the Staff College has developed its various activities.

For the most senior administrative officers a series of four-week refresher courses are provided for group secretaries, physician superintendents of mental hospitals, hospital secretaries and finance officers. The courses are residential ones and each is built up to provide a satisfactory discussion group of twelve members. The work is largely based on lecture and discussion with some case study, sometimes with the use of visual aids. A course is usually divided into two groups for syndicate work on a selected topic. In the period of four weeks up to 30 lecturers, each a specialist in his own subject, are brought to the lecture room.

The Staff College has a large panel of part-time lecturers upon which to draw and it is part of the policy to change lecturers frequently and to bring in new ones from time to time. Thus, lecturers come from the Ministry of Health, the regional hospital boards, the governing bodies of teaching and nonteaching hospitals and experts from other fields. The Member of Parliament talks about Parliament and the Health Service. Industrialists deal with management in industry and others lecture on organisation and method, work study and other kindred subjects. Doctors, nurses, and other professional specialists make their contribution. Every major current hospital topic is discussed. For entry to these courses which refresh and stimulate the members and consider approaches to problems there is always a long waiting list. Three years after such a four-week course is

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Revised Hospital Medical Injection Costs Study (1958)

by Kenneth R. Nelson, Jr., M.S.

■ IN JUNE, 1955, Dr. James Hunter and associates conducted a study in the U. S. Public Health Service Hospital in Baltimore, Maryland. This study compared the costs, including labor and material, of administering three injectable medications by the conventional and closed-injection methods. The results of this study, published in HOSPITAL MANAGEMENT,[1] indicated that it cost from 5.3 to 6.4 cents more per injection to administer the drugs studied by the closed system.

At the time of Dr. Hunter's original study, he stated that ". . . *the extra cost is small when one considers the advantages of closed system therapy* . . .", referring of course to the advantages of assured asepsis, reduced risk of hepatitis infection, simplified handling and control, and other important considerations.

Prompted by the pay increases granted all Federal employees by the 1958 session of Congress, the author has re-examined this whole problem. This re-evaluation of Dr. Hunter's findings indicates that the cost differential between the two systems of injection is now reduced to a range of 2.1 to 6.1 cents per dose.

Methodology

Investigation of the literature on injectable costs indicated that the time measurements made by the accounting firm of Lybrand, Ross Brothers and Montgomery, for the original study, were extremely accurate. Reports on independent studies conducted at both Jefferson Hospital[2] of Philadelphia and Lenox Hill Hospital,[3] New York City, produced figures that were substantially the same as those reported in the *"Hunter Study."* Both of these projects were carried out at later dates, and the similarity of their independent measurements led to the conclusion that these time figures might be reproducible in most hospitals.

Summary of Labor and Medication Costs of Two Systems

Medication	Conventional	Closed System*	Differential
Morphine 10 mg. per injection	$ .268	$ .303	$ .035
Morphine 15 mg. per injection	$ .271	$ .313	$ .042
Meperidine 50 mg. per injection	$ .271	$ .332	$ .061
Procaine penicillin 300,000 units per injection	$ .237	$ .258	$ .021

*Closed system price are based on Tubex prices quoted in General Services Administration schedules; Tubex medication was supplied for the original study through the courtesy of Wyeth Laboratories, Philadelphia.

Schedule A. Comparative Nursing Costs per Injection

	Closed Method			Conventional Method		
	Narcotics		Injectable	Narcotics		Injectable
	Morphine	Meperidine	Antibiotics	Morphine	Meperidine	Antibiotics
Number of injections observed	20	11	70	20	3	62
Average time (seconds) per injection	183.99	183.99	132.40	301.95	264.98	211.74
Breakdown[1]						
Preparing injectable at nursing station[2]	49.90	49.90	23.79	141.30	104.33	49.97
Preparing and making injection at bedside	32.42	32.42	51.01	31.61	31.61	84.47
Disassembling and rinsing	18.13	18.13	12.62	13.47	13.47	20.65
Recording medication administration in patient's chart and other hospital records	52.90	52.90	18.14	68.74	68.74	22.94
Going to and from nursing station and patients	30.64	30.64	26.84	46.83	46.83	33.71
Average rate of nurses' pay per second	$.000554	$.000554	$.000554	$.000554	$.000554	$.000554
Cost of nurses' time						
per injection[3]	$.101930	$.101930	$.073350	$.167401	$.146905	$.117389
for requisitioning and storing materials	.003397	.003397	.004228	.003397	.003397	.004228
Total Nursing Costs per Injection	$.105327	$.105327	$.077578	$.170798	$.150302	$.121617

[1]Time for Conventional Method narcotics-handling operations other than "preparing injectable at nursing station" is average for all narcotic injections observed by this method.

[2]Medication forms for Conventional Method are as follows: morphine—tablet; meperidine—multi-dose vial aqueous solution; antibiotics—multi-dose vial viscous suspension.

[3]Average time X average pay/sec.

Presented, AAAS Annual Meeting, Washington, D. C., December, 1958. Mr. Nelson is a consultant, Nursing Home and Hospital Administration, Chronic Disease Program, Bureau of State Services, U.S.P.H.S., Washington, D. C.

Schedule B. Central Sterile Supply Room Costs per Injection (for Conventional Method).

	No. of Units Handled	Time in Seconds	Average Pay Rate per Second	Total Cost[1]	Cost[2] per Unit	Sterilizing Cost[3] per Injection
Washing and assembling						
Pans	29 pans	5100	$.0007279	$3.712	$.128010	$.007112*
Syringes	256 syringes	5460	.0007279	3.974	.015525	.015525
Needles (including sharpening)	379 needles	12300	.0004745	5.836	.015399	.015399
Preparing units for sterilization	5 pans	1200	.0007279	0.873	.174600	.009700*
Loading autoclave	81 pans	1740	.0007279	1.267	.015642	.000869*
Unloading autoclave and shelving	57 pans	2280	.0007279	1.660	.029123	.001618*
Filling floor requisitions						
Picking items from shelves	126 pans	1800	.0007279	1.310	.010398	.000578*
Delivering to nursing station and collecting returns of unsterile items	145 pans	7140	.0004745	3.388	.023365	.001298*
Total Sterilizing Costs per Injection						$.052099[3]

[1]Time X average pay/sec.
[2]Total cost ÷ number of units
[3]Sterilizing costs are the same for all drugs studied (morphine, meperidine, injectable antibiotics)
*Cost/unit ÷ 18 syringes/pan

Observations of the techniques used at the Baltimore Hospital and subsequent discussions with Lybrand, Ross Brothers and Montgomery, established that to all intents and purposes, these time measurements were constant.

Consequently, the only real variables that needed to the considered in any re-evaluation of the original work were the current prices of material and the new Federal wage structures. Accordingly, the new salaries per second were calculated for each type of personnel involved in the original study.

An examination of current purchase orders yielded the prices being paid by the Baltimore Hospital for the supplies involved. Information concerning the cartridge medication prices was obtained from current General Services Administration contracts and from Wyeth Laboratories.

Employing the time figures used in the original study and the current salary and supply figures, the new costs applicable to a single injection were calculated and are reported in the new schedules. The latter are substantially comparable with those used in the original study, with the exception of the schedule dealing with purchase costs.

In the original study (*schedule V of the Hunter survey*) the same values for purchasing and accounting costs per injection were attributed to both systems. Review of this study indicated that the item for *"handling, storage, and distribution"* of syringes was not applicable to the closed system, and accordingly, this item was omitted in the recalculation (*new schedule D*).

The original "Hunter Report" dealt with the methodology of the study and the various elements of the schedules in detail. Copies of the 1955 report are available from Wyeth Laboratories or HOSPITAL MANAGEMENT* to those who are interested.

*Ask for reprint on "Hospital Medical Injection Costs" by Hunter and Associates.

Schedule C. Pharmacy Costs per Injection (for Conventional Method).

	No. of Items Handled	Time in Seconds	Average Pay Rate per Second	Total Cost[1]	Cost[2] per Item	Cost per Injection		
						Narcotics		Injectable Antibiotics
						Morphine	Meperidine	
Acquiring and Handling Drugs								
Selecting noncontrolled items to be purchased; reviewing and forwarding to supply office	144	22170	$.00080701	$17.891	$.124243	.....	.....	$.000532[3]
Selecting narcotic items for purchase; plus entering in narcotic records	2	630	.0005222	.329	.164500	$.000366[3]	$.000457[3]	.....
Receiving, recording and storing	51	4440	.00043975	1.952	.038274	.000043[4]	.000106[4]	.000055[4]
Transferring materials within pharmacy from reserve to active stock	24	4200	.0009453	3.970	.165417	.000184[4]	.000463[4]	.000236[4]
Transferring morphine to safe floor package	25	720	.0009756	.702	.028080	.001404[5]	.....	.....
Filling Floor Requisitions								
Average No. of Doses per Requisition	.....	.....	.....	.....	.....	20	20	15
Picking noncontrolled items and placing in baskets	271	10800	$.00079561	$ 8.593	$.031708	.....	.....	$.002114[6]
Delivery to floors by pharmacist's helper	271	4200	.00043921	1.845	.006808	.....	.....	.000454[6]
Picking narcotics	32	1680	.00074167	1.246	.038938	$.001947[6]	$.001947[6]	.....
Delivery to floors by pharmacist	17	1320	.0009755	1.288	.075765	.003788[6]	.003788[6]	.....
Checking narcotic forms and bottles returned	21	1680	.00053035	.891	.042429	.002121[6]	.002121[6]	.....
Total Pharmacy Costs per Injection						$.009853	$.008882	$.003391

[1]Time X average pay/sec.
[2]Total cost ÷ number of items
[3]Exact cost/injection factors are too complex for inclusion in the limited space of this chart
[4]Cost/item ÷ average doses/month
[5]Cost/item ÷ 20 injections/floor package
[6]Cost/item ÷ No. doses/requisition

Schedule D. Purchasing and Accounting Costs per Injection (for Conventional Method).

	No. of Units Handled	Time in Seconds	Average Pay Rate per Second	Total Cost[1]	Cost[2] per Unit	Basis of Allocation per Injection	Costs[3] per Injection		
							Narcotics		Injectable
							Morphine	Meperidine	Antibiotics
Preparing purchase orders for medications and needles and syringes	90 items	28200	$.000534	$15.059	$.167322	Av. No. of doses or quantity and times used	$.000236	$.000315	$.000289
Handling storage and distribution of needles and syringes	477 dozen	39540*	.000486	19.216	.040285	Av. No. of doses or quantity and times used	.000011	.000011	.000011
Processing purchase orders and other documents	101 items	71100	.000552	39.247	.388584	Av. No. of doses or quantity and times used	.000358	.000784	.000440
Total Purchasing and Accounting Costs per Injection							$.000605	$.001310	$.000740

[1]Time X average pay/sec.
[2]Total cost ÷ No. of units
[3]Cost/unit ÷ basis of allocation (factors too complex for inclusion in the limited space of this chart)
*Includes 19,770 seconds estimated time required for requisition and delivery of needles and syringes to central sterile supply

Because it requires less personnel time to administer an injection by the closed system, the increase in wages caused an over-all increase of injection costs for this system of about one cent, whereas the increase in injection costs by the conventional method was in some cases as high as eight and one half cents per injection.

As above figures show, injections by the closed system in this particular Public Health Service Hospital are still slightly more expensive, but the cost difference between the two systems is rapidly declining. Only in the case of meperidine is the difference considered to be significant (6.1 cents per injection).

If labor costs increase only slightly, the present differences between the two system may disappear entirely.

Ray E. Brown, past president of the American Hospital Association, in a recent article,[4] predicted that hospital costs would rise about five percent annually over the next few years and that the major factor leading to this rise would be wage increases.

It is therefore logical to assume that the cost of administering injections by either system will continue to rise. Since labor is the major factor influencing the costs of the conventional system, it may be expected that any further upward revision of salaries will probably bring the costs of the two systems to the "cross-over point."

In evaluating any study, one must examine it from all angles, not just cost alone. The original report indicated that the closed system of injection offered certain advantages, on which one cannot place a price tag but which nevertheless exist and should not go unmentioned. These benefits are becoming increasingly more important. They are

1. Accuracy of dosage assured.
2. Sterile product assured.
3. Sharp needle assured.
4. A strongly suspected source of serum hepatitis removed.
5. Less danger of allergic sensitization and reactions in personnel.
6. Drug available for immediate use.
7. Reduced likelihood of pilferage of narcotics by addicts.
8. Less waste by breakage and incomplete use.

The shortage of registered nurse personnel in both fields has caused both types of institutions to rely more and more on the licensed practical nurse to perform nursing duties. In many institutions where the State Nursing Practice Act permits, the "practical nurse" is called upon to give parenteral medications. The dangers involved in this administration of injectables by "less skilled" personnel are obvious. The closed system reduces these dangers considerably by guaranteeing both a sterile and an accurate dosage for each injection.

The danger of the "cross-infection factor" has again become a problem in hospitals with the emergence of new resistant strains of Staphyloc-

Schedule E. Comparative Summary of Labor and Depreciation Costs per Injection.

	Closed Method			Conventional Method		
	Narcotics		Injectable	Narcotics		Injectable
	Morphine	Meperidine	Antibiotics	Morphine	Meperidine	Antibiotics
Nursing costs	$.105327	$.105327	$.077578	$.170798	$.150302	$.121617
Sterilizing costs	.....	.....	.....	.052099	.052099	.052099
Pharmacy costs	.007450	.008880	.003391	.009853	.008882	.003391
Purchasing and Accounting costs	.000599	.001299	.000729	.000605	.001310	.000740
Labor Costs per Injection	$.113376	$.115306	$.081698	$.233355	$.212593	$.177847
Purchase (replacement) costs						
Syringe	.....	.....	.....	$.012329	$.012329	$.012329
Needle	.....	.....	.....	.001201	.001201	.001201
Depreciation Costs per Injection	.....	.....	.....	$.013530	$.013530	$.013530
Total Labor and Depreciation Costs per Injection (exclusive of medication and overhead)	$.113376	$.115506	$.081698	$.246885	$.226123	$.191377

Schedule F. Grand Summary.

Labor and Depreciation Costs per Injection[1]	Morphine Sulfate 10 mg./injection		Morphine Sulfate 15 mg./injection		Meperidine HCl 50 mg./injection		Procaine Penicillin 300,000 units/ml.	
Conventional Method	$.246885		$.246885		$.226123		$.191377	
Closed Method	.113376		.113376		.115506		.081698	
Difference (Conventional cost greater)		$.133511		$.133511		$.110617		$.109679
Difference	54.1%		54.1%		48.9%		57.3%	
Medication Costs per Injection[2]								
Conventional Method	$.021		$.024		$.045		$.046	
Closed Method	.190		.200		.216		.176	
Total Costs per Injection[3]								
Conventional Method	$.268		$.271		$.271		$.237	
Closed Method	.303		.313		.332		.258	
Difference (Closed cost greater)		$.035		$.042		$.061		$.021
Number of Injections[4]	3664		3056		7885		21150	
Annual Cost Differential[5]		$128.24		$128.35		$480.98		$444.15
Annual Cost per Occupied Bed[6]		$ 0.471		$ 0.472		$ 1.768		$ 1.633

[1]See Comparative Summary
[2]Average prices paid to several manufacturers by U.S.P.H.S. Hospital at time of present (1958) study
[3]Sum of Labor and Depreciation Costs + Medication Costs
[4]For year when original study was made (see Hunter, J. A., et al.: Hospital Management 83: 86-96, March, 1957.)
[5]Number of Injections X Total Costs Difference
[6]Annual Cost Differential ÷ 272 (av. daily no. beds occupied for year when original study was made — Hunter, J. A., et al.: idem.)

occus and other infectious agents. Again the guaranteed sterility of both the medication and the needle in the closed system removes this danger.

An obvious advantage to the closed system was not emphasized in the original Hunter report and therefore deserves special attention at this time. Only through the closed system will a patient be charged only for the medication he uses. No longer will charges for medications dispensed in multiple-dose vials be a matter of guesswork. As medication is dispensed by the pharmacy, it may be charged by the cartridge against the patient receiving it. Any unused cartridge may be returned for credit when the patient leaves the hospital. These unused cartridges are still perfect, so neither patient nor hospital bears an unfair financial burden.

The closed-system or cartridge method of injection must not be confused with the disposable-syringe method. The closed system is an entirely new concept embodying a disposable factory prefilled cartridge-needle combination and a separate metal syringe-cartridge holder.

The disposable-syringe system, on the other hand, is merely an adaptation of a "disposable unit" to the conventional method. Use of the "disposable unit" provides only a few of the advantages of the closed system; namely, elimination of labor costs in central supply, a one-use sharp needle, and an initially sterile needle and syringe.

On the other hand, "the disposable unit" may suffer from certain disadvantages inherent in its own nature; namely, the possibility that certain solvents in the medication might dissolve and become contaminated with the plastic used in making the syringe barrel, and the danger that, through error, a used, no longer sterile, syringe and needle might be used again.

It may be seen therefore, that the "disposable syringe" shares certain disadvantages inherent in the conventional system and that, in sometimes overlooked, and the "disposable syringe" and the "cartridge syringe" are too often unjustly lumped together in discussions dealing with injection techniques and costs. Each should be dealt with separately on its own merits, and each has its own special role to play in the hospital and clinical field.

Recently, a whole host of new medicinal products became available in cartridge form. Among these are such items as tranquilizers, additional analgesics, additional antibiotics, and biologicals such as toxins, antitoxins, toxoids, vaccines, and antigens. Many companies also may soon begin to cooperate in offering more medications in cartridge form by joint production and packaging. If the various manufacturers in this field could standardize on an interchangeable cartridge, the closed system would become even more attractive to users and might truly be said to have "*come of age.*"

While this paper has, of necessity, stressed the closed system of injection, it must be realized that this is not the entire answer to the hospital's problems in the parenteral and venipuncture areas. Both the conventional and disposable syringes fulfill a definite need in medical practice. In addition, the advent of the evacuated blood-collecting tube also serves a definite purpose. This tube provides a sterile, safe method of collecting blood samples without the use of syringes. The tube itself may be used to carry out the necessary laboratory procedures without transferring the blood sample from syringe to tube, thereby saving additional personnel time. A combination of the various disposable units and closed-system units will probably prove to be the most complete answer to the injection labor problem.

While the adoption of any labor-saving device may not result in the direct reduction of any hospital's payroll, it will nevertheless allow the hospital to utilize its professional personnel to better advantage. The saving of time in small amounts throughout any hospital, by whatever means, often permits that institution to meet peak loads without addition of costly personnel. Such time saving may also allow the hospital to adopt new and better medical procedures as fast as they prove safe and desirable, rather than postponing their adoption until the budget permits the employment of additional technical personnel.

[1]Hunter, J. A. et al: Hospital medication injection costs; a preliminary study, I-III. Hospital Management 81:82-86 (March), 1956; 81:80-84 (April) 1956; 83:86-96 (March) 1957.

[2]Bourn, I. F., Flack, H. L., and Browneller, E.: Hospital pharmacy preparation of disposable-unit injections. Bulletin of the Parenteral Drug Association 12:8-16 (Jan.-Feb.) 1958.

[3]Bogash, R. C., and Pisanelli, R.: Evaluating disposable type syringes. Hospital Management 80:82-86, 118 (Nov.-Dec.) 1955.

[4]Brown, Ray E.: Hospital costs will continue to climb. Hospitals 29:140-142 December) 1955. ■

Who's Who

AMESBURY, WALTER R. See ROBERT A. ANDERSON notice.

A. Boyd Anderson

ANDERSON, A. BOYD—appointed assistant administrator of the Western Pennsylvania Hospital, Pittsburgh, Pennsylvania.

ANDERSON, ROBERT A.—assistant director of the Sloan Institute of Hospital Administration at Cornell University, has been appointed to succeed WALTER R. AMESBURY as administrator of the Waltham Hospital, Waltham, Massachusetts. Mr. Amesbury has been associated with the hospital in an executive capacity for 28 years, and will retain his appointment as treasurer of the hospital corporation.

ANDRES, E. R.—formerly administrator at McMinnville Hospital, Inc., McMinnville, Oregon has been appointed administrator of the Grandview Hospital in Edinburg, Texas.

BLAYLOCK, MISS ELIZABETH—is the new administrator of the McCray Memorial Hospital, Kendallville, Ind.

BOOTH, ORVILLE N.—administrator of St. Francis Memorial Hospital, San Francisco, California for the past 12 years, was made vice president and administrator by his Board of Trustees.

BULLOUGH, WILLIAM—assistant administrator of Memorial Hospital, Warren, Michigan resigned to assume the administratorship of the Alexander Blain Hospital in Detroit.

COLLARD, BOYD. See EDWARDS notice.

COONEY, MAJ. GEN. JAMES P., M.C.—has been assigned to Europe as chief surgeon, Headquarters, U.S. Army, Europe. General Cooney has served as deputy surgeon general of the U. S. Army since 1955.

EDWARDS, JAMES M.—former administrator of the Okmulgee City Hospital, Okmulgee, Oklahoma. He replaces BOYD COLLARD who resigned to accept the post of administrator of McAlester General Hospital, McAlester, Okla.

Medical Record Editor

Adaline C. Hayden

HOSPITAL MANAGEMENT is proud to announce the appointment of Adaline C. Hayden, C.R.L. as medical record editor. Mrs. Hayden is a national authority on medical records who has written numerous articles on the organization and maintenance of medical records and is co-author of two textbooks for medical record librarians. She has been a medical record consultant since 1934 and has completed 148 surveys in addition to being a consultant on a permanent basis to several hospitals. A former president of the American Association of Medical Record Librarians, she has been on the teaching faculty of numerous institutes, university programs and other educational programs for medical records. Her column on medical record problems will appear monthly in HOSPITAL MANAGEMENT.

ELLERBE, CHENEY—formerly administrator of the Fairmont (West Virginia) Hospital, has been named administrator of the Fort Lauderdale Beach Hospital, Fort Lauderdale, Fla.

ENGEL, ROBERT L. See HARTMAN notice.

ERLMAN, JOHN A.—is now assistant administrator of the DeGoesbriand Memorial Hospital, Burlington, Vt.

FOUGEROUSSE, JACK—former administrator of Putnam County Hospital, Greencastle, Indiana, is now administrator of Dukes Memorial Hospital, Peru, Indiana.

FRAY, LLOYD L. —appointed administrator of the Caney Valley Hospital, Wharton, Texas. He succeeded E. H. Moore, who has resigned.

HARTMAN, DANIEL W.—has retired as administrator of The Williamsport Hospital, Williamsport, Pennsylvania. He has been administrator since 1943 and will be retained as executive director of the Hospital's Development Program and consultant to the Executive Committee of the Board. MR. PAUL G. WEDEL, has been appointed to succeed Mr. Hartman as administrator. Mr. Wedel has been assistant administrator for the past five years. ROBERT L. ENGEL has been appointed assistant administrator succeeding Mr. Wedel.

HOLLIS, MARK D.—assistant surgeon general appointed to the newly created post of associate chief for Sanitary Engineering in the Bureau of State Services, U.S. Department of Health, Education and Welfare, Public Health Service, Washington, D.C.

LOEWEN, SAM—has been named administrator of Ocean Beach Hospital, Ilwaco, Washington.

LYNCH, FRANK ALLEN—has been appointed to the post of administrative assistant of Presbyterian-St. Luke's Hospital, Chicago, Illinois. He has been associated with the St. Luke's division since 1951,

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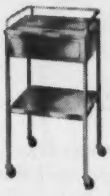

FERGUSON UTILITY TABLE

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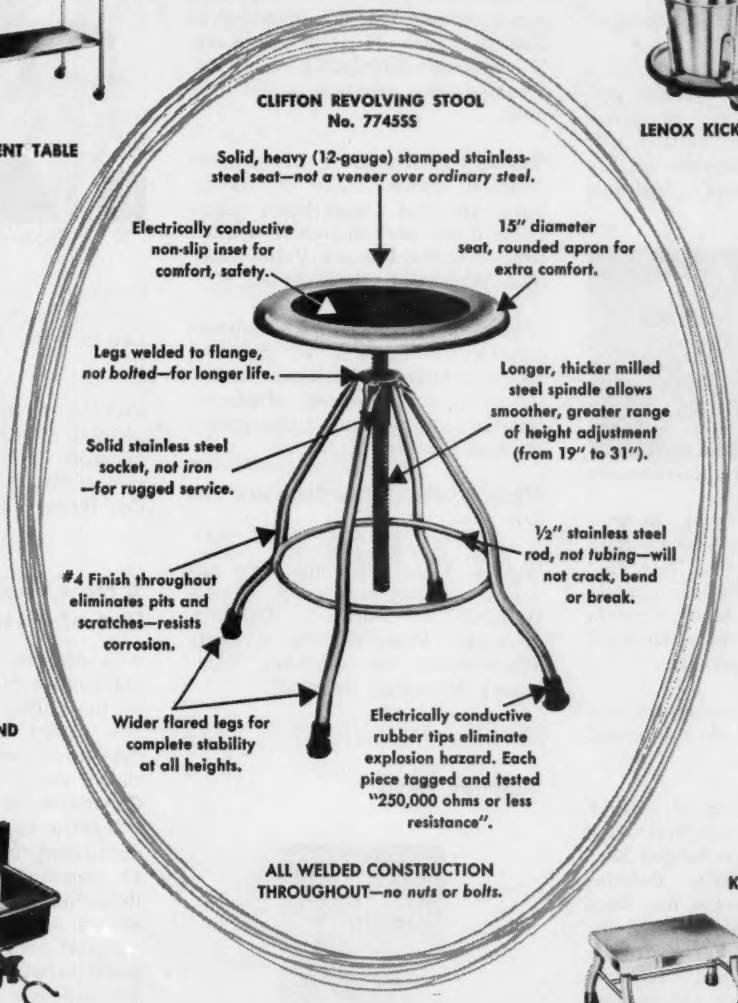
WINDSOR SCRUB-UP SINK

WINFIELD FOOT STOOL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as director of Patient Services. He is a graduate of the program in Hospital Administration, Northwestern University.

MILLER, CLARENCE W. See STEVENSON notice.

MOORE, E. H. See FRAY notice.

MORRIS, EUGENE D.—is the new administrator of Edward Hospital, Naperville, Illinois.

MURPHY, CLARENCE. See STADLER notice.

OLING, MISS MARIE N.—former administrator of McCray Memorial Hospital, Kendallville, Indiana will become the administrator of the Minneapolis, Minnesota Children's Hospital.

Capt. Sanders

Dr. Rosenkrantz

ROSENKRANTZ, DR. JACOB ALVIN—appointed director of Newark Beth Israel Hospital, Newark, New Jersey. Dr. Rosenkrantz is currently administrator of the Albert Einstein Medical Center, Southern Division, Philadelphia, Pennsylvania.

SALT, FRANK O.—appointed assistant administrator of St. Luke's Hospital, Spokane, Washington.

SANDERS, CAPT. CHARLES M.—USAF Medical Service Corps, director of medical administration for the 32nd Air Division (SAGE), Dobbins AFB, Marietta, Georgia has been appointed medical services administrator at the Air Force's newly constructed School of Aviation Medicine and Research Center, San Antonio, Texas.

SLATTON, E. GILBERT—has been appointed administrator of the Eugene Wuesthoff Memorial Hospital, Rockledge, Florida.

STADLER, ROY—is the new superintendent of Hubbard Memorial Hospital, Bad Axe, Michigan. Mr. Stadler, who was formerly administrator of Bay County Hospital, Richmond, Missouri replaces CLARENCE MURPHY who resigned to return to his native Pennsylvania.

STEVENSON, R. T., M.D.—has retired as administrator of Lake Wales Hospital, Lake Wales, Florida. CLARENCE W. MILLER, assistant administrator for the past two years has been appointed administrator.

TAYLOR, IRVING A.—administrator of Memorial Hospital, Warren, Michigan has resigned to take a post with the United States government in a hospital advisory capacity.

UNDERRINER, THOMAS J.—has been appointed assistant administrator at Sacred Heart Hospital, Spokane, Washington. Previously, he was administrative assistant at the hospital.

VERRASTRO, NICHOLAS T.—former assistant administrator of Waterbury Hospital, Waterbury, Connecticut has been appointed administrator of the Pascack Valley Hospital Westwood, New Jersey.

WASSENAAR, HOWARD J.—assistant director of Edward W. Sparrow Hospital, Lansing, Michigan has resigned to accept the post of administrator of the new Shawnee—Mission Hospital in Kansas.

WEDEL, PAUL G. See HARTMAN notice.

WETZEL, HAROLD E.—has been appointed administrator of Miners Hospital of Northern Cambria, Sprangler, Penn. He was formerly administrator of Anniston (Alabama) Memorial Hospital.

Supplier News

Robert L. Boyd

BOYD, ROBERT L.—appointed general sales manager of American Sterilizer Co., Erie, Pennsylvania.

GRAHAM, WILLIAM B.—president of Baxter Laboratories, Inc., Morton Grove, Illinois has been elected Chairman of the Board of the Pharmaceutical Manufacturers Association.

HEISMAN, FRED—appointed assistant sales manager of the Hospital Equipment Division, of S. Blickman, Inc., Weehawken, New Jersey.

JOHNSON, ROY—director of furnishings and decorations for nearly 18 years with American Hospital Supply Corp., has retired from active service with the Company. He will continue in a consulting capacity with American.

W. E. Picklin

J. Peterson

PETERSON, JOHN—has been named general sales manager of Baxter Laboratories, Inc., Morton Grove, Ill.

PICKLIN, WILLIAM E.—has been appointed market director and sales manager of the Commercial Division of the Homer Laughlin China Co., Newell, West Virginia.

A New Look at the Use of Hospitals

■ A STRANGE and frequently amazing picture of the use of hospitals by the public was presented in the first report to be published from over three years of intensive analysis by the Citizens Hospital Study Committee of Cleveland.

By tracing each of 63,616 cases discharged from Northeast Ohio's 42 community hospitals during a three-month study period, the committee developed a mass of new material confounding many traditional beliefs regarding the ways in which people use their hospitals.

The report, first of a series planned by the Committee, showed:

That women in labor sometimes travel 25 miles or more through city traffic, by-passing other first-rate hospitals on the way, in order to have their babies in hospitals relatively remote from their homes.

That few hospitals serve as many as half of the residents of their own immediate neighborhoods.

That most hospitals draw more than half of their patients from the immediate service areas of other hospitals. ■

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No need for a mallet to "crack" cylinder valves . . . just a fractional turn of the valve does it.

It's OK! I've got a filter tip.

But the directions don't say open that s-l-o-w-l-y.

OK nurse, where do you want it?

For use of these cartoons appreciation is expressed to Ohio Chemical and Surgical Equipment Co., Madison 10, Wisconsin.

(*Advertisement*)

Take a Close Look at Hospital Injectables

Reading time: 2½ minutes **Benefits: 12**

There is little doubt that disposable equipment has assumed great importance in the modern hospital. Certainly, no hospital administrator would dispute the fact that disposable items such as knife blades, blood lancets, urine collection bags, catheters, and enemas all help increase efficiency and, often, cut costs.

On the other hand, much can be said for equipment of a more permanent nature. Personnel have usually had experience with it. There's no need for constant re-ordering; the cupboard is rarely bare.

You can have both

The advantages of disposable and permanent equipment do not necessarily have to be separate and distinct. In the TUBEX® closed-system of injectables, for example, the best features and advantages of both are combined. The system comprises a durable, finely made syringe and a disposable cartridge (glass) and needle unit containing a pre-measured dose of medication.

Injection with TUBEX *simply requires that the proper pre-filled cartridge-needle unit be selected, inserted in the syringe, and aspirated. After the injection has been given, the cartridge-needle unit is discarded; the syringe is ready to use again . . . and again . . . and again . . .*

The benefits that the TUBEX system brings to hospital personnel, and the contributions that it makes to hospital efficiency and the welfare of patients, are impressive. Consider, if you will, the following examples.

1. Accurately measured dose assured
2. Danger of giving wrong drug reduced

Each sterile cartridge-needle unit contains an accurate, clearly labeled dose. Therefore, the nurse no longer must measure out doses as before—perhaps from an often-used, possibly contaminated multiple-dose vial. She runs little risk of administering an inaccurate dose or, worse yet, the wrong drug entirely. Obviously, the less chance for error the fewer the number of malpractice suits.

3. Efficiency of Central Supply increased
4. Breakage losses reduced

TUBEX cartridge-needle units are pre-sterilized; the needles pre-sharpened. This means that Central Supply can turn its attention to duties other than the time-consuming sterilization of syringes and the sharpening and sterilization of needles. It also means that breakage, which invariably accompanies these operations, and which raises the hospital's costs, is drastically reduced.

5. A source of hepatitis eliminated
6. Contact sensitization minimized

TUBEX cartridge-needle units serve for a single injection only. There can be no contaminated needles to transmit serum hepatitis or other diseases. Also, because there is virtually no chance for spillage, the nurse rarely comes into contact with drugs that might produce dermatitides or be absorbed to cause even more serious effects.

7. Inventory control simplified
8. Narcotic security tightened

The TUBEX system requires only two parts, half as many as the "conventional" system.

TUBEX System: cartridge-needle unit, syringe
Conventional System: plunger, barrel, needle, medication

There are fewer records to keep. Inventory control, therefore, is more accurate and efficient. As inventory control becomes more accurate, narcotic security automatically tightens.

9. Patients react more pleasantly to injections
10. Most commonly used drugs available

The most obvious direct benefit that the TUBEX system provides for the patient is a relatively painless injection, the result of a fresh, pre-sharpened, single-use needle. Since most common drugs—and many uncommon ones as well—are available in TUBEX form, the majority of hospital patients can benefit from the TUBEX system.

11. Accounting made more efficient
12. Billing made more accurate

Since each cartridge-needle unit contains a single, pre-measured dose, the amount of medication, including narcotics, that is given a patient is readily ascertainable. Hence, accounting is facilitated and the proper charges to the patient can be made accurately and easily.

In summary

As you can see, adoption of the TUBEX system can have far-reaching effects. Efficiency and morale of the staff are improved. Labor costs—currently about 70 cents of every dollar spent by the hospital—are markedly reduced. Accounting, billing, and inventory control are made more accurate. The risk of malpractice suits is mitigated. The well-being of patients is enhanced.

The TUBEX system can presently supply more than 75 per cent of injectables commonly administered in hospitals. And medications not yet available in TUBEX form can be administered by means of empty, sterile cartridge-needle units. Thus, the TUBEX system is capable of meeting every need for injectables.

The TUBEX system is already in wide use. To learn more about the many benefits that the TUBEX system can bring to *your* hospital, please see your Wyeth Territory Manager or write to Wyeth Laboratories, P.O. Box 8299, Philadelphia 1, Pa.

What Associations Are Doing

South Carolina Hospital Association

Left to right: James R. Neely, executive director, South Carolina Hospital Association; Arthur B. Rivers, director, State Department of Public Welfare, Columbia; Governor Ernest F. Hollings, State of South Carolina and James E. Case, president, South Carolina Hospital Association, administrator of The Tuomey Hospital, Sumter.

■ ON MAY 18, South Carolina Governor Ernest F. Hollings signed into law a bill to provide for a state fund to be used to pay for hospital care of the categorically indigent. South Carolina is one of the states eligible to receive federal funds for this purpose on a 65-35 matching ratio (82-18 for Dependent Children). Heretofore, financing of care rendered to relief cases was considered to be a responsibility of the counties. The new law provides the necessary state matching funds by withholding 30 cents per capita from that portion of the state income tax proceeds which were previously returned to county governments for operating purposes. The new law became effective on July 1.

In a public statement issued to the press in South Carolina, Governor Hollings stated, "By the simple device of diverting 30 cents per capita to a state fund to be used for financing hospital care for persons on relief, South Carolina becomes eligible for more than a million dollars of federal money. Since most counties already are spending more for the hospitalization of these persons than will be withheld under the new law, these federal funds will be returned to the citizens of the state simply by providing for disbursing the money already being spent at the county level through the state's financial system."

Also commenting on the new law was the president of the South Carolina Hospital Association, James E. Case, administrator of the Toumey Hospital, Sumter. Case stated, "This new law not only will help the counties, but it also will be of real benefit to non-charity patients in hospitals. Hospitals have only three sources of money; benevolent donors, paying patients and government. Income taxes have virtually made it impossible for individual donors to amass sufficient financial reserves to make any significant contribution to hospitals for charity care. Providing the necessities of life, such as food, clothing, housing and health care, to destitute persons has more and more been assumed as a responsibility by the total community. Most counties in South Carolina have been appropriating money for charity hospital care, generally more than will be withheld in this law, but still there are only a few counties in the state which have been able to meet the total cost of care rendered to relief cases. The hospitals, therefore, have had to add a surcharge to the bills of paying patients to obtain enough money to finance care rendered to destitute persons. Although I cannot visualize the bill resulting in an actual lowering of hospital charges in the immediate future, I believe it is quite likely to relieve, at least temporarily, the need for increasing charges in some of the hospitals around the state." ■

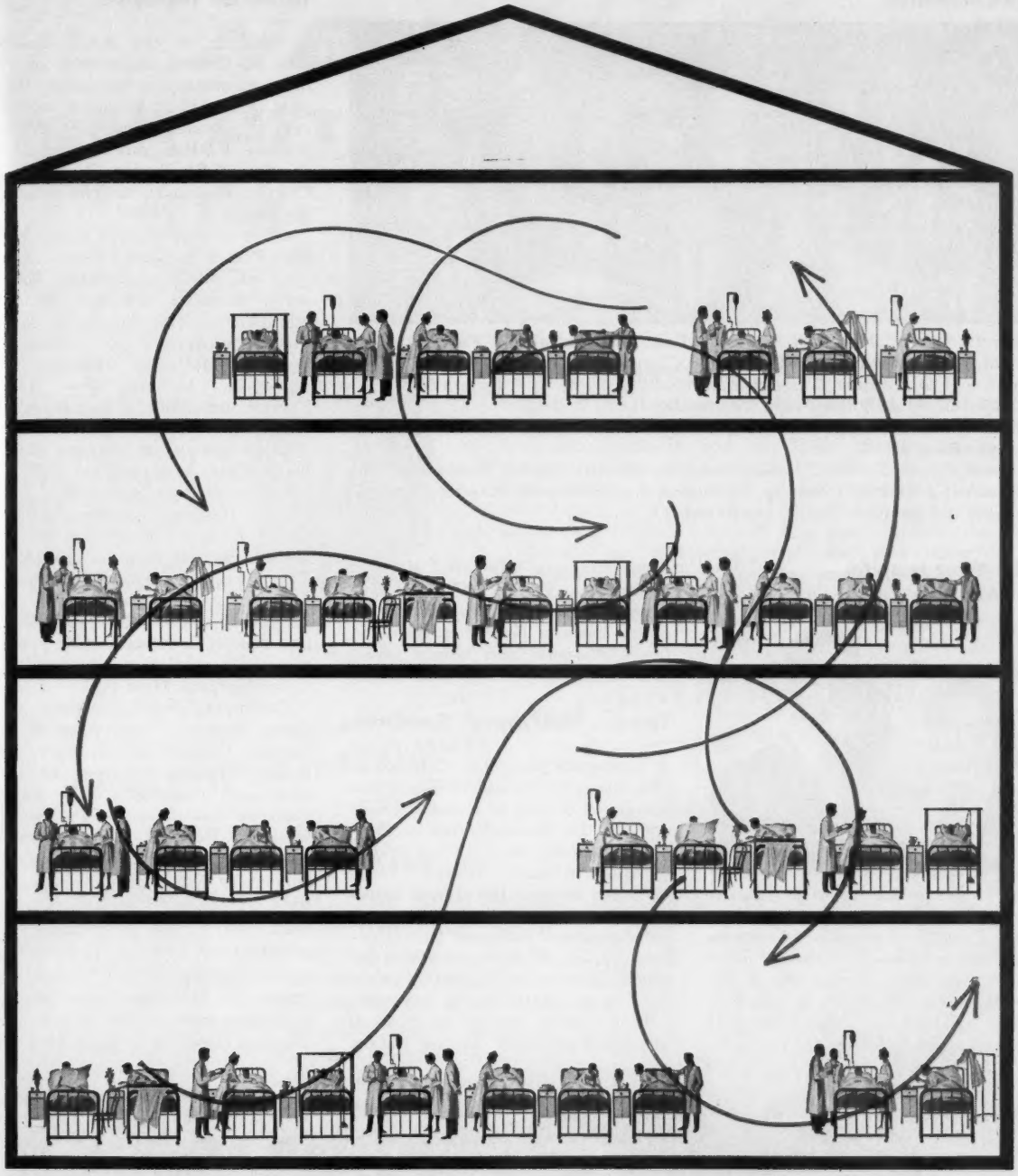
New England Hospital Assembly

■ DR. I. S. GEETTER, M.D. was elected president-elect. Dr. Geetter is director of the Mount Sinai Hospital, Hartford, Connecticut. He will serve as NEHA program committee chairman for the 1960 meeting and take office the following year. ■

National Health Council

Doris Gleason, C.R.L.

■ MISS DORIS GLEASON, C.R.L., executive director of The American Association of Medical Record Librarians has been elected to a three-year term on the Board of Directors of the National Health Council. ■



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Whether resistant staph is known or suspected, *Albamycin is indicated.*

ADMINISTRATION AND DOSAGE: The dosage for adults is 500 mg. Albamycin administered intramuscularly or intravenously every 12 hours. As soon as the patient's condition permits, parenteral Albamycin should be replaced with oral Albamycin therapy.

SUPPLIED: Available as 250 mg. capsules; syrup containing 125 mg. Albamycin per 5 cc.; and in the 500 mg. Mix-O-Vial.†

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1958-59 University of Chicago Graduate Program in Hospital Administration

1st row, l to r: Dr. Sayed Hashmattullah, M.D., Donald M. Furbush, Benjamin G. Abramovice, John W. Ayappa, Clarence C. Traum.
2nd row, l to r: Harry T. Bedenkop, Donald G. Shropshire, Gareth H. Mitchell, Miss Mary A. White, Peter Solyom, Jr.
3rd row, l to r: Robert A. DeVries, Thomas R. Matherlee, Rosemary Capusan, Haynes Rice, Jr.
4th row, l to r: Vernon Forsman, associate director; Sophie Zimmerman, coordinator; James A. Connelly, instructor; Ray E. Brown, director; Irvin G. Wilmot and David M. Hatfield, instructors.

Mid-West Hospital Association

Shown during the recent convention are Mr. and Mrs. Herbert A. Anderson, Lincoln, Nebraska. Anderson took office as head of the 800-hospital association during the 3-day sessions. Mr. Anderson is administrator of Lincoln General Hospital and succeeded James G. Carr, Jr. administrator of Memorial Hospital of Natrona County, Casper, Wyoming. C. E. Copeland, administrator of Missouri Baptist Hospital, St. Louis, Missouri, was named president-elect.

Texas Pharmacy Seminar

■ SPONSORED by the College of Pharmacy, University of Texas and the Texas Society of Hospital Pharmacists, the Eleventh Annual Hospital Pharmacy Seminar was held in February in Austin, Texas.

As can be seen, the annual hospital pharmacy seminars in Austin are extremely well attended. Dean Burlage and Joe Arnette and others responsible have, in the past 11 years, built up an annual event that ranks with the very best of all hospital pharmacy seminars in the nation.

The American Association of Inhalation Therapists

■ MEMBERS of the AAIT elected Don E. Gilbert, supervisor of inhalation therapy at University Hospital, Ann Arbor, Michigan, as next year's president; and Sister M. Yvonne, F.S.P.A., director, school of anesthesia, St. Francis Hospital, La Crosse, Wisconsin, as chairman of the board.

Other officers elected were: First Vice President—Larry Fruik, supervisor of inhalation therapy, Edgewater Hospital, Chicago, Illinois; and Second Vice President, Noble Price, supervisor of inhalation therapy, Methodist Hospital, Indianapolis, Indiana. Mrs. Agnes Forrest, inhalation therapist, Edgewater Hospital, Chicago, treasurer.

Other new board members elected were: Sister M. Arnoldine, R.N., inhalation therapy supervisor, Holy Family Hospital, LaPorte, Indiana; Larry E. Ross, administrative assistant, Baptist Hospital, Nashville, Tennessee; Bernard Kew, supervisor of inhalation therapy. St. Alexis Hospital, Cleveland, Ohio; and Joseph L. Klocek, R.N., supervisor of inhalation therapy, St. terian Hospital, New York.

Continuing board members are: James Sharkey, supervisor of inhalation therapy, Queen Mary Veterans' Hospital, Montreal, Quebec; Mrs. Leah Tharaldson, R.N., supervisor of inhalation therapy, Northwestern Hospital, Minneapolis, Minnesota; Mrs. Constance Cypert, supervisor of inhalation therapy, Inter-Community Hospital, Covina, California; Bruce Boyd, supervisor of inhalation therapy, Jackson Memorial Hospital, Miami, Florida; and James F. Whitacre, supervisor of inhalation therapy, Strong Memorial Hospital, Rochester, New York. ■

Hospital Pharmacy Seminar, Austin, Texas, February 1959

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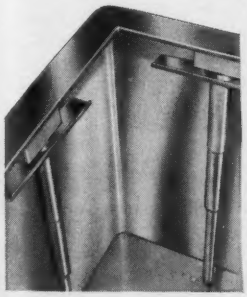

There are no exposed springs, chains, pulleys, cables or sprockets to collect dirt and dust. The entire interior may be washed by simply removing the bottom tray—no tools are needed.

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A.C.H.A. Activities

NEWS and VIEWS from the American College of Hospital Administrators

■ Special honors were paid to two Fellows of the ACHA recently.

DR. A. C. MCGUGAN, superintendent of the University of Alberta Hospital in Edmonton, Canada was named the recipient of the George Findlay Stephens Memorial Award. This Award, granted in memory of Dr. Stephens, is bestowed "in recognition of noteworthy service in the hospital field in Canada."

Dr. McGugan has devoted a lifetime to serving hospitals and community health. Just recently, he completed three years of service to the College as Regent from Region 16.

The other Fellow of the College to be honored was DR. LEE D. CADY, manager of the VA Hospital, Houston, Texas.

At a decennial celebration held in April, Dr. Cady was presented with an Award of Merit "for administrative skill, educational leadership, devotion to the welfare of citizens and community and significant contribution to the Texas Medical Center through his dedication to academic medicine and dentistry and support of the Dean's Committee's development of a sound program of medical education and research.

•

Personal letters to Nominees, Members and Fellows of the College seeking their voluntary contributions to the current expansion program have been sent out by the ACHA PRESIDENT ANTHONY W. ECKERT and DR. FRASER D. MOONEY, chairman Committee on Special Fund-Raising.

In the letter, Nominees were urged to contribute a minimum of $25; Members, $50 and Fellows $100.

The complete text of the letter to Fellows follows: "Practical steps are being taken to extend the over-all program of the College and we are seeking your cooperation with the Board of Regents in these forward-moving plans."

"It is eleven years since the College appealed directly to the membership for supplementary funds. Since that time, several significant accomplishments resulted, including a variety of educational programs; preceptor and human relations conferences; scholarships; examination development; publication and research activities."

"Now the Regents are asking you to help voluntarily in providing new and important projects in the areas of education, scholarship, research, publications, and special studies significant to hospital administration but presently beyond the means of the College."

"A *Regents Resource Fund* will be established through voluntary contributions from the membership. We suggest that, as a Fellow, you consider a personal gift of $100. It will be tax-exempt, and if you prefer, installments may be arranged over a five-year period."

"A pledge card is enclosed for your convenience. Please use it to indicate the manner in which you intend to make your contribution and return it to us as quickly as possible. Your cooperation at this time will assure the continued advance of the College and its program."

"On behalf of the Board of Regents and the Committee on Special Fund-Raising, we wish to express our deepest appreciation for your consideration of this worthy project."

•

Two awards have been granted by the college for post graduate training, the Scholarship Committee has announced.

The recipients of the awards are HUGH J. MAHER, Newburgh, New York and FRED H. SMITH of Clarksville, Tennessee.

Mr. Maher, currently completing his graduate work in hospital administration, Yale University will serve his extended residency at the Lankenau Hospital, Philadelphia under the preceptorship of Raymond F. Hosford, director, a Fellow in the College.

Mr. Smith is winding up his academic work at Washington University, St. Louis and will go to the Barnes Hospital in that same city for his residency training. DR. FRANK R. BRADLEY, director and also a Fellow in the College, will serve as preceptor. ■

Continued from page 51

held the administrator is invited back for a one-week extension course and nearly all accept.

Pending the establishment by the Ministry of Health of a selective, recruitment and training scheme, several experimental training courses were offered to young officers employed in the hospital service. The first, which lasted two years, produced satisfactory results and was followed by a number of three-month courses for those seeking promotion.

Three-Year Course

The first National Training Course, of three year's duration, under the Ministry of Health scheme, started in October 1956. This scheme provides for an annual intake; half the trainees become the responsibility of the University of Manchester and the others the responsibility of the Hospital Administrative Staff College. The course is open to graduates of a British University; to men and women holding a professional qualification recognized by the Selection Committee (e.g., doctor, solicitor, chartered accountant) and to men and women who have been employed in the hospital service for not less than three years and have passed, at least, the intermediate examination for a professional qualification. Selection is by competitive interview with a National Selection Committee appointed by the Ministry of Health. The normal age limit for entry is 30 years although the Selection Committee has discretion to accept candidates up to the age of 35.

The training at the University and at the Staff College, whilst comparable in many ways, naturally vary in detail. At the Staff College the trainee spends four separate periods, totalling 32 weeks, doing theoretical work. This covers the general range of the various departments or sections of hospital work, the higher levels of administration and management and the wider concepts of social and industrial administration. Practical training is provided in hospitals of various types, in the hospital management group administration and at the regional hospital board. A short period is also spent at the Ministry of Health itself and a few weeks are spent in some branch of industry or commerce. The third year of the course is spent in one or two posts undertaking work of responsibility within the capacity of the trainee. As the Staff College is small and specialised, the approach to training is on an individual basis and close contact is maintained with the trainee throughout the training period.

As a complementary part of the tutorial work of stimulating the senior men and training the more junior ones, the Staff College has largely been made a center where men and women distinguished in various walks of life come together. Thus during each course there are a number of guest nights and receptions attended by such persons as Members of Parliament, chairmen of boards and committees, medical, nonmedical and nursing administrators and industrialists. Here, on neutral ground, there is free and frank discussion. After a man has passed through a Staff College course—and so far over 600 have done so—he remains a member of the fraternity of the Staff College. He is invited, from time to time, to come and meet his friends and colleagues and to turn to the College for advice.

Hospital Research

Useful material for the tutorial work has been produced through Staff College special enquiries into aspects of hospital administration. Close attention has been given to such matters as making the best use of hospital beds, out-patient organization, mental hospital administration, recruitment, selection and training of staff and organization and method and work study. Benefits have also accrued from liaison with other branches of the King's Fund, particularly the Staff College for Matrons, the Staff College for Ward Sisters, the Catering Advisory Service, the School of Hospital Catering and the Division of Hospital Facilities.

The Staff College approaches to training are often reviewed. It may well be that a three-year course is too long, that the practical work needs defining more closely, that the first stages of training are at too high a level and so on. It is not difficult to teach technicalities—a large number of experts are available to do so—but how are the "intangible" qualities required in the administrator to be developed? Latent qualities in the trainee of personality, leadership, personal relationships and judgment need to be brought out. With his future career in the balance, the stamina needed to sustain a long course is, in itself, a test of a man's character; the variety of training experience tests relationships and the morale of a small group of trainees associated over a long period reveals individual personality.

Apart from the contribution to training at present being made by the University of Manchester and by the Hospital Administrative Staff College, there are other facilities developing. The regional hospital boards have inaugurated post-entry training courses lasting from one to two years. These give training by movement from hospital to hospital and to regional board and will be developed, no doubt, when a new junior administrative training grade, as at present envisaged following a special inquiry, is established. The University of Leeds, also, will soon be providing special courses for hospital administrators.

More Practical Work

Training in hospital administration therefore is developing considerably in Britain though much remains to be done to meet the eventual needs of the hospital service. The trend is to provide a wider experience in the practical work; the trainee must work with and under a number of good administrators in several hospitals and boards in a variety of conditions.

If it might appear that hospital administration has sometimes fallen short or that training might have been more effective, it may be claimed, nevertheless, that generally speaking the National Health Service has met with a large measure of success. Whilst financial stringency has, so far, almost entirely prevented the building of new hospitals, considerable advances have been made in modernizing, adapting and re-equipping the existing ones. Additional consultant medical and surgical staff have been appointed and advances in diagnosis and treatment have been made fully available to the hospital patient. More beds have been added and existing beds have been used to better advantage. Hospital administration has made great progress in making better use of the resources available, in co-ordinating the services to meet area needs and in seeing that the doctors, the nurses and ancillary workers directly serving the patient have been fully supported. ■

Continued from page 34

the defence," such consultation to be arranged as soon as the claim for damages is received.

Furthermore, the same circular announced that it had been agreed that where the member of the staff concerned was a member of a defence society, the society would contribute half the damages awarded. (These defence societies undertake to be responsible for conducting the defence of their members and, subject to certain reservations, to pay damages and costs in any action for negligence. The societies provide these benefits only for individual members and not for corporate bodies, such as hospital authorities.)

In a letter from the Ministry of Health to the Chartered Society of Physiotherapy in April, 1949[1], the Minister said that *"The hospital authority should stand behind the physiotherapist — as they stand behind a nurse."* But, it was added, there might be circumstances in which both the authority and the Minister would not be prepared to assist the physiotherapist *"and cases where . . . the authority or the Minister would be prepared to assist in the defence . . . but . . . not to pay any of the costs or damages." "Every case,"* the letter added, *"must depend on its merits."* Later, the Ministry agreed that, if it undertook to defend an action against a physiotherapist member of a hospital staff, the Ministry would undertake to meet any costs and damages which might be awarded against him.

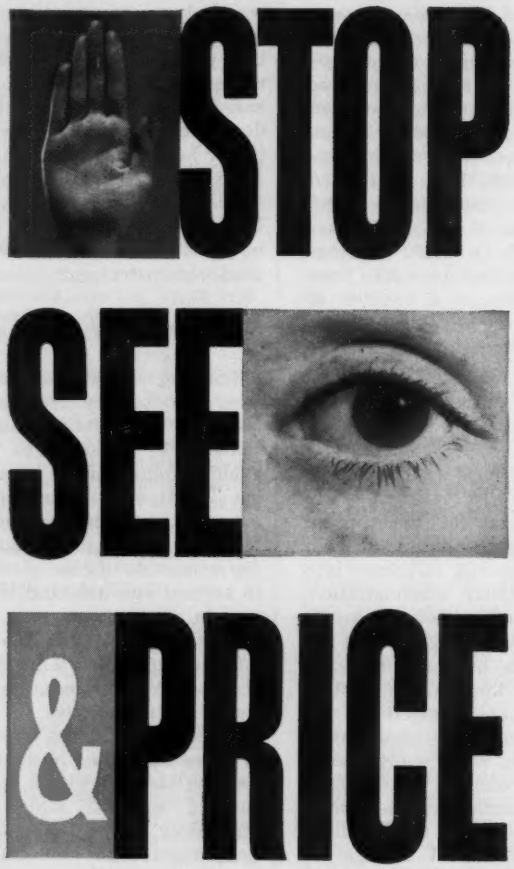
What is the duty of the physiotherapist towards a patient who is about to undergo physical treatment? This question was discussed at considerable length in the case of *Clarke v. Adams*[2] which was tried before Mr. Justice Slade in July, 1950.

In this case a Mr. Clarke, a man of 67, complained of pain in the left heel which was said to be due to fibrositis, for which diathermy was advised. The treatment was given by a physiotherapist of great experience, Mr. Adams, who held diplomas in massage, medical gymnastics, medical electricity and light and electrotherapy. He had been in practice for some 20 years and his professional competence had never been called in question.

Mr. Adams arranged his apparatus, placing one electrode over the heel and the other over the calf. Before starting treatment Mr. Adams said to the patient, *"When I turn on the machine I want you to experience a comfortable warmth and nothing more. If you do, I want you to tell me."* The treatment proceeded and the current passed through the machine for about 20 minutes. Towards the end of this period Mr. Clarke had increasing pain in the heel but he *"thought he ought to stick it."* There was some conflict of evidence as to whether he actually made any complaint to Mr. Adams about this pain while the treatment was going on. The foot was massaged after completion of the diathermy treatment and the massage caused pain in the heel.

Next day there was a blister over the heel and Mr. Adams visited the patient. The condition got worse, an ulcer developed over the heel and eventually the limb had to be amputated below the knee.

[1] quoted with comment in the Society's Journal in January, 1953.
[2] 1950, 94 SJ 599



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In his summing-up Mr. Justice Slade dealt in considerable detail with the question of liability—what was the duty of a physiotherapist using a potentially dangerous machine? Had Mr. Adams done all that a reasonable man should do to inform the patient of any danger entailed in the treatment? It is agreed that he told the patient that the treatment should induce *"A comfortable warmth and nothing more"* and that he asked Mr. Clarke to say if he felt anything more than this. Mr. Adams claimed that such instructions to the patient constituted *"A warning that every physiotherapist gave to a patient before commencing treatment: indeed, it appears to be a form of warning which is specifically approved by the Society which instructs physiotherapists and which looks after their interests and the practice of physiotherapy among its members."*

After a careful review of the evidence, the Court decided that Mr. Clarke made no complaint while the treatment was going on about any excessive heat—that he did not mention this at all until the next day, when he said that although he did experience such discomfort he *"Thought he ought to stick it."*

In his Statement of Claim the plaintiff, Mr. Clarke, made a number of allegations of negligence—that the apparatus was defective, that it was kept on too long, that sparking occurred from the electrodes on to the patient's foot, that the electrodes were not properly applied, and that the current used was excessive. The Court rejected every one of these allegations which, it was said, were wholly unsupported by any evidence. Nevertheless, the action was decided in favour of the plaintiff who was awarded damages against the physiotherapist on the ground that the latter was negligent in one particular, that is, that he failed to give the patient an explicit *warning of the possible dangers of the treatment.*

There is no doubt that Mr. Adams was well aware of these dangers. He said, *"We are always on the look-out (for burns), it would be wrong to relax the recognised rule of technique. Once a lethal temperature is reached, it is a matter of seconds before the burn occurs."* What he said to the patient was, *"When I turn on the machine I want you to experience a comfortable warmth and nothing more. If you do, I want you to tell me."*

Evidence was given that this sort of advice is approved by teachers of physiotherapy, that it is in fact, *"A form of warning which has been most carefully thought out, with—the most altruistic of motives, for the purpose of preserving the dividing line between not alarming the patient on the one hand, and fulfilling the . . . vital function of warning the patient in substance that he will be burned, or that there is the gravest danger that he will be burned, unless he responds to the warning by informing the operator the moment the heat that he feels gets beyond that of comfortable warmth."*

The judge said, *"I fully understand the reasons for the careful selection of the form of the so-called warning. I understand the inexpediency of alarming the patient. But I am satisfied that the danger of his being seriously injured is far more important than the fear of his being so alarmed at the treatment as to decide to forego it."*

"It is no use talking about a warning unless you say against what the warning is being issued . . . nothing short of a warning of danger is sufficient to exculpate the operator from any civil responsibility if his patient sustains injury".

It was not sufficient, said the Judge, to offer *"a mere expression of solicitude for the comfort of the patient,"* he must be told plainly of the danger inherent in the treatment, for otherwise the operator proceeds at his own risk. And this may lead to disastrous consequences.

How can the physiotherapist avoid the risks of becoming involved in legal proceedings? It is suggested that the following principles should be carefully observed:

1. To understand thoroughly the nature of the work undertaken, including the construction and proper maintenance and operation of all apparatus used, and the dangers inherent in the use of such apparatus —for instance, the risk of burns, electric shock, overstrain of weak muscles and unstable joints, and causation of fractures (a risk which applies particularly to electroconvulsant therapy, but attaches also to any manipulation of limbs affected by disuse atrophy).

2. To take careful note of the treatment prescribed and not to exceed the scope of this. Thus, passive movements and light massage may be all that is allowed in the early

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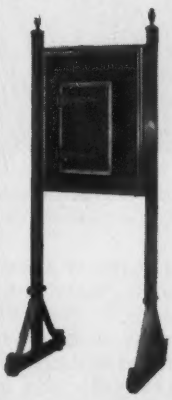

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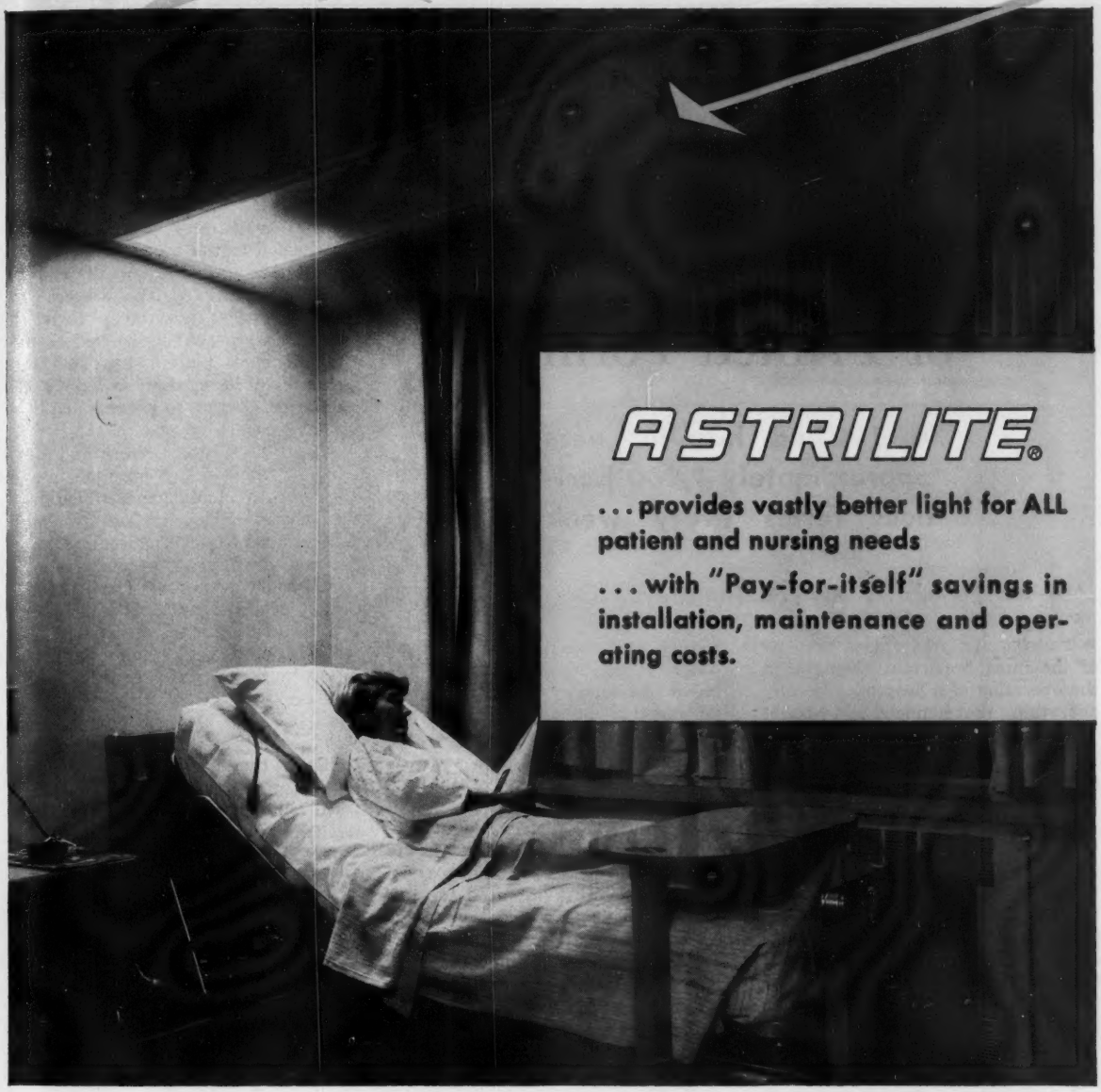
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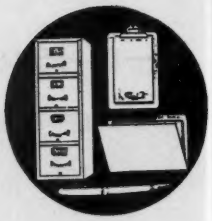

How to Cut Cost of Printed Forms

A 100-bed hospital uses approximately 1,000 business forms every week

by E. B. Hundley

■ PRINTED BUSINESS FORMS are one of the most important elements in the operation of a hospital. Literally everything that happens to a patient —the admission, requisitions for medicine, the treatments he receives, his discharge—all are recorded on a form.

Because printed forms are such an integral part of a hospital's operation, there is a definite need to carefully examine the institution's printed forms procedures—printing, procurement, inventory control—to determine if these procedures are the most efficient and economical possible. An analysis of your forms procedures might show how to:

1. Bring about a reduction in your annual cost of printed forms.

2. Guarantee a greater degree of accuracy.

This holds true for both large and small hospitals for even a 100-bed hospital may use approximately 1,000 forms a week. When so many forms are processed, costs can easily get out of line.

There are at least five areas in hospital forms procedures which should be analyzed.

Admission Sets

The admission set is the key to the entire hospital accounting procedure. It is the form on which all other forms in the hospital are based. As such, it is especially important that the admission set be as efficiently constructed as possible.

There are at least two ways to improve the efficiency of the set. First, all admission sets have sections which are distributed to both the cashier and the nurse to notify them of the patient's discharge. On many, two forms are used for this purpose. This is a needless waste. Through more attention to design of the set, it is possible to combine the two forms into one, resulting in a savings in printing costs.

Inclusion of the accounting department's ledger card in the admission set is another means of reducing both your printing costs and your paperwork. Many hospitals do not include the ledger card in the set and accounting must make up its own ledger card, even though the ledger contains much the same information as the admission set. To eliminate this duplication of effort, the ledger card should be designed into the admission set. This step has another benefit. It reduces the margin of error present when the information is copied from the admission set to the ledger card.

Charges

Any charge made to the patient is put on a charge slip which is then processed to the accounting department. Accounting enters the charge on the ledger card. This process can become very involved even at a small hospital. At a 100-bed hospital, if each patient has just ten charges a week, there will be 1,000 different charges to process just that week!

To solve this paperwork and sorting problem, many hospitals use a variety of colored papers for different types of charges. Using colored papers is a good practice but it can create a problem because it is a well-known printing fact that the color of a paper will vary from one mill run to another. Thus the color of the paper will be lighter or darker from one manufacturing schedule to the next. This can lead to the possibility of confusing one type of charge for another in the myriad charges that are processed each day.

To solve this problem use a standard white paper that is tinted. It is much easier to control the color of a tinted paper. Therefore, the hospital will always have standard tints for its many charge forms that are sorted daily. Use of a tinted paper also will minimize the possibility of errors being made due to mis-sorting and will also lighten the paperwork load of the accounting department.

Purchasing Supplies

This can be a costly process and studies have shown that issuing a purchase order can cost as much as $5.00!

To cut down on this cost use the right type of purchase order. Basically, there are three purchase orders that hospitals should use: Continuous forms, snap-out forms, and gathered sets. Each type has certain advantages which are best fitted to a particular hospital size.

If a hospital issues approximately 50 purchase orders per week, it would be most economical to use a gathered set.

If 75 to 300 purchase orders are

Mr. Hundley is vice president, Cullom & Ghertner Company, Nashville 4, Tennessee.

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processed weekly, it might be well to use a one-time carbon interleaved purchase order form.

But if you issue 300 or more purchase orders per week, a continuous form should be used. The continuous form can be either marginally or nonmarginally punched, depending on the type of processing and accounting equipment the hospital has.

One way to increase efficiency in the purchase procedure is to design the purchase order so that the receiving department copy is included. Then, when the purchase order is typed, the copy can be sent directly to receiving. This system eliminates the duplicate operation of having to make out a separate, hand-written order alerting the receiving department to expect the shipment.

Payroll Procedures

Cost reductions are possible in a hospital's payroll. Many hospitals use a safety paper for their payroll check. This is not really necessary. In one hospital a change was made from safety paper to a ledger paper with a safety tint which resulted in a 15 percent annual saving in the cost of the payroll checks.

Inventory Control

Most hospitals maintain inventory records from the multi-copy requisitions for supplies that are received from various departments. It is important that the multi-copy requisition be composed of the proper weight and grade of paper and carbons.

This may seem like a small point, but if the grade of paper is too heavy and the wrong weight of carbon is used in the requisition form, the bottom carbon copies may be illegible. It is important to check your requisitions to determine if all carbon copies are legible.

A hospital, in many of its administrative aspects, resembles any business organization. There are three cost-cutting forms procedures used by business organizations which also should be used by hospitals.

Forms Inventory

You should ask yourself this question: Am I carrying too heavy an inventory of forms? American industry, studies have shown, suffers an annual obsolescence of about 10 percent in its printed forms. While no exact figures are available for hospitals, it can be assumed that they also have an obsolescence factor. A form ordered on a two-year supply basis, for example, may become obsolete before the supply is exhausted. To estimate how much capital you may be losing through obsolete forms multiply the number of dollars spent annually on forms by the 10 percent figure, and you will see just how expensive it is to carry too heavy an inventory of forms.

Work Closely With The Printer

It is wrong to feel that the printer is only the mechanic of the printed form. If the printer is not consulted closely on all phases of your printing work, he cannot develop a clear understanding of your needs. It is very often possible for the printer to combine several of your printed forms on one printing run; or to combine your forms with those of other customers. This results in a lower printing cost per form. Through close co-operation, you can also realize savings in forms sizes, scheduling of printing runs, and shipping procedures.

Some hospitals work with several printers at the same time, while others work with only one printer. It may be advantageous for you to examine the possibilities of integrating all of your printed forms needs through one supplier. An integrated arrangement means that you will work with the same printer in all phases of the printed form procurement, printing, inventory control, shipping and billing operations. The advantages of this arrangement are many-fold, for the printer, in effect, becomes a member of your organization. He is your printing department and, in this capacity, will come to have a good knowledge of your hospital's needs. ■

NORRIS

Continued from page 71

stages of treatment of a case, and active movements and more vigorous manipulations postponed until the patient has made progress up to a certain stage.

3. To appreciate the special risks arising from various disease states. Thus, parts of the body which are paralysed, or have a poor blood supply, or impaired sensation are specially vulnerable, so that damage may be caused by proceedings which would be perfectly safe when one is dealing with healthy tissues.

4. To give proper warning to the patient of dangers, and to secure his intelligent cooperation. Treatment should be explained to him in terms which he can understand.

5. To be always on the look-out for signs or symptoms of things which may go wrong—defects arising in the apparatus, or abnormal responses to treatment.

6. To keep careful, accurate, and complete notes of what is done, so that full information is available in the event of any subsequent enquiry about the case.

7. To take advantage of the Third Party Risk Insurance scheme offered by the Chartered Society of Physiotherapy, so that expert advice and financial assistance will be available at once in the event of a claim for damages being made.

If damage occurs in spite of all reasonable precautions and the case proceeds to a Court hearing, it is comforting to remember that Her Majesty's Judges are wise and humane men who are ready to give every consideration to the difficulties and hazards of medical and surgical treatment, including physiotherapy. They will not condone carelessness or inattention when it leads to injury to the patient, but they will see that justice is done and that allegations of negligence must be proved beyond all reasonable doubt before they are accepted by the Court.

This might perhaps be best concluded with a quotation from Lord Justice Denning from the case of Roe v. Ministry of Health[9].

"Medical science has conferred great benefits on mankind, but these benefits are attended by considerable risks. Every surgical operation is attended by risks. We cannot take the benefits without taking the risks. Every advance in technique is also attended by risks. Doctors, like the rest of us, have to learn by experience and experience often teaches in a hard way." ■

[9]1954, 2K.B. 66

Cancer Reaction

■ BRITISH MEDICAL JOURNAL reports a study of reactions of 231 patients who were told they had curable cancer. Two-thirds were glad to be told, 19 percent denied being told, 7 percent (all women) resented being told they had cancer. ■

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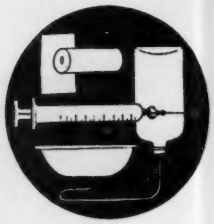


by Mary Helen Anderson, R.N.

It *Can* Be Done Successfully

by Pharmacist William O. Wissman

Editor's note: In this edition of HOSPITAL MANAGEMENT which is devoted to the hospital pharmacist, it seems fitting to include this interview-type article in which Mr. Wissman so clearly describes his function as Central Service Director. Attention of R.N.'s should be drawn to the mention made of the importance of a qualified professional person in the department. And above all—this works in Parkview Memorial Hospital, but may not in yours. HM congratulates Mr. Wissman for proving a point that has troubled so many nurses. Now at least we know it can be done!

■ THE PARKVIEW MEMORIAL HOSPITAL (Fort Wayne, Indiana) was built five years ago as a 242-bed hospital. During the last year it has increased to 320 beds. As the Director of Pharmacy Service, I have charge of the operations of the central service department. We like it this way, and have found that *in our situation* it works very well.

We have a full-time equivalent of 17 people in our C.S. department. This includes an R.N. supervisor, one part-time R.N. who works one day a week plus vacation relief, one orderly, one clerk and the rest are nurses' aides. The department is open 16 hours a day, seven days a week. The hospital has a very active volunteer program. Our White Cross Guild and the nursettes contributed a total of 8,935 hours in central service during 1958. A total of 1,695 hours of volunteer services were contributed to the pharmacy during that same year.

Our Central Service Department offers quite a comprehensive service to the other sections of the hospital—such as pickup and delivery service to the nursing care units, flasking and sterilizing of all distilled water, normal saline, boric acid solutions; inspecting and folding surgery linen; sterilizing of surgery packs and instruments; preparing and sterilizing O.B. packs; setting up and sterilizing the many trays and packs used on the nursing units; processing all patient bed units; dispensing of intravenous solutions; operating the pneumatic tube relay station; processing all rubber gloves, needles and syringes; storing and servicing humidifiers, suction machines, inhalators.

In my opinion, a central service department must have a qualified registered nurse as its supervisor. There must be not only a thorough knowledge of the central service procedures, but also an understanding of the problems and needs of the nursing care areas, the operating room, delivery room and emergency room. At Parkview we are most fortunate in having a supervisor who meets these requirements. Our Mrs. Berkheiser has the necessary technical knowledge required plus the very important gift of being able to "win friends and influence people."

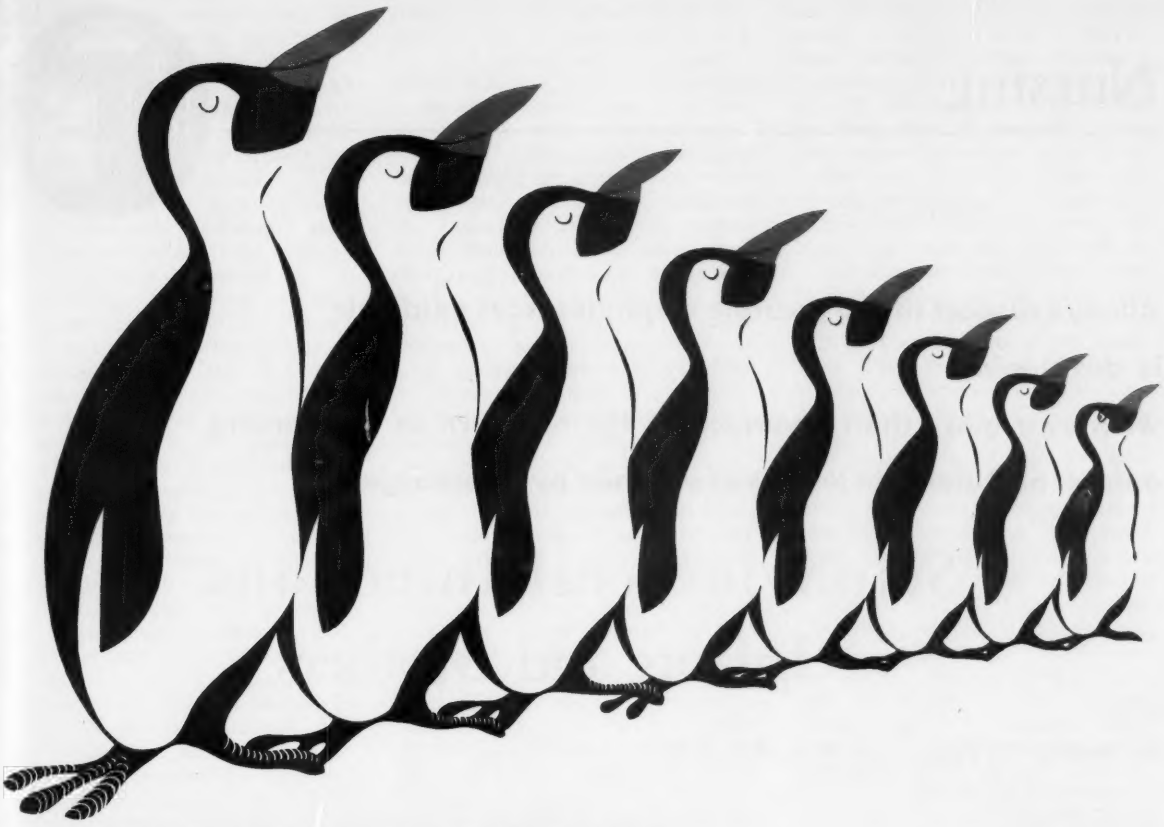
Every hospital family is composed of many people with varied and special skills. The hospital pharmacist also has his special skills. He must be a combination of a professional and business person. He must have the respect and confidence of the hospital administration, the medical staff and the nursing staff. He must be able to set up a rigid control system which still allows flexibility to meet emergencies. For example, a tracheotomy tray securely locked in a cupboard will probably not get lost, but it most certainly will never save a life. A pharmacist must be able to furnish his administrator with a sound system for pricing and charging for the many items under his care.

As a pharmacist, I do not feel qualified to set up the many trays and packs that are prepared in central service, but I do find myself well able to recommend the procedures best suited for proper inventory control and for the pricing and charging of these items. My main contribution to the central service department in our hospital is in the area of purchasing techniques, establishing general distribution policy, setting up pricing systems and devising effective inventory controls.

We maintain a rather extensive inventory of central service supplies on each nursing unit. The advantage to this system is that it results in better service to the patient when he needs it. The disadvantage is the inventory control problem that this creates. We use virtually the same inventory control system for central supply items that we do for pharmacy items. All central service items are priced by a formula very similar to that used in the pharmacy and are listed in a central service catalog quite like the pharmacy catalog.

A continuous educational program in the proper stewardship of supplies and equipment is also an important part of my duties—and again my background in education contributes to the better performance of this task. Monthly combined pharmacy and central service reports are prepared by me and circulated to each department, to the director of nursing and to the administrator. This report reflects progress being made by each department and has done much to stimulate a spirit of competition among the various departments. No department seeks the "booby prize" for the month.

I like being a pharmacist—and I like my association with the duties in the central service department. For us it works! ■



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Nursing

Always suspect that a possible staphylococcus epidemic is developing whenever more than 1 percent of the newborn in the nursery exhibit pustular skin lesions or purulent eye discharge.

Staphylococcal Infections in Infants and Mothers

by Walter M. Whitaker, M.D., F.A.A.P.

Department of Pediatrics
The Quincy Clinic
Quincy, Illinois

Part I

■ THE PROBLEM OF STAPHYLOCOCCAL DISEASE is an ancient one. Osteomyelitic lesions have been observed in Egyptian mummies of 4,000 years ago. In military personnel, the carbuncles of Medieval soldiers, or the laudable pus of Paracelsus were quite well recognized, so that we must say that staphylococcal disease has been existent in man for thousands of years and may be said to be as old as medicine and surgery themselves.

That this problem has become a national one is evidenced by the calling of a national conference by the Surgeon General of the United States which was held in Atlanta, Georgia, in September, 1958. Delegates representing 59 different professional organizations with specialists from universities, independent laboratories, and hospitals met to discuss this problem.

Our primary concern about staphylococcal disease today is dependent upon the fact that staphylococci frequently develop antibiotic resistance with the emergence of specific epidemic strains which may then endanger the hospital population or even the community itself by producing serious forms of staphylococcal disease. Today, we must consider staphylococcic hospital disease as a definite infectious disease which is frequently highly communicable and that virulent staphylococci, when given certain opportunities in susceptible hosts, are quite capable of producing fatal disease which may, at times, assume epidemic proportions.

Every hospital has an endemic level of staphylococcic infection which, at certain times, may allow the development of definite epidemics. We must be alerted to the potentialities of such problems and do everything possible to lessen the endemic level, if we are to lessen the likelihood of the development of an epidemic. If an epidemic does occur, we must be alerted to its presence and do everything possible to terminate it at once. Before an epidemic can occur in an institution, it is necessary that an organism existing as a capable epidemic strain, usually phage 80-81, be present and that factors allowing its rapid dissemination be existent.

Excerpts from remarks presented at the Illinois Congress on Maternal and Child Welfare, Springfield, Illinois.

Hospital Staphylococci

It is well that we understand what is meant by the term "hospital staphylococci." We mean a *Staphylococcus aureus* which is coagulase-positive and which is resistant to penicillin, streptomycin, and/or the tetracyclines and which is usually phage type 80-81. It has been shown that about 10 per cent of patients harbor staphylococci naturally resistant to these drugs in the usual hospital population but that patients, after treatment with an antibiotic such as penicillin, streptomycin, or tetracycline for seven to ten days, will become 100 percent carriers of hospital staphylococci, whereas untreated patients, in a 30-day period, will show an increase in hospital staphylococci of only 10 to 30 percent. Such figures indicate the rapidity with which so-called resistant hospital staphylococci develop in patients after only a brief period of treatment of that individual with penicillin, streptomycin, or tetracycline. Much of this increase, undoubtedly, occurs because of the fact that the patients entered the hospital with staphylococci which were susceptible to the above antibiotics but, after the drugs were given for a period of

days, such staphylococci were suppressed and resistant forms developed due to the fact that the patients were in an environment heavily colonized with multiple drug-resistant phage group 80-81 staphylococci and these virulent organisms became implanted.

While it is true that we have never thoroughly understood how staphylococci spread, there is probably very little difference in the spread of these organisms now than there was prior to the use of antibiotics in the early 1940's. The great difference now is the fact that staphylococci which spread in the hospitals today are predominantly antibiotic-resistant. The greater the use of antibiotics in our hospitals, the greater the tendency for staphylococci to become resistant to such antibiotics. This widespread use of antibiotics throughout all hospital populations today has undoubtedly limited the spread of streptococcic and pneumococcic infections. But, because of such usage, we have frequently allowed a lowering of standards for the prevention of sepsis. We know definitely that these drugs have been shown to be ineffective in limiting the spread of staphylococci. There is no definite evidence, however, that the use of these drugs has made such infections more frequent, except, perhaps, in the case of enteritis and in the case of 80-81 phage type of staphylococci where, certainly, epidemics have occurred. Antibiotics should not be used indiscriminately and, when they are used, there should be a definite, specific purpose for their use and we should never trust them to prevent the spread of staphylococci or, for that matter, of any other organism.

Clinical Manifestations

The average physician has a fairly definite opinion about the usual clinical manifestations of staphylococcic disease. He knows that staphylococci are practically universal in that they exist world-wide in distribution, are a part of the skin flora and normal nasopharyngeal flora found in the average human being. The physician well realizes that staphylococci are quite capable of infecting wounds and that they are largely opportunists. He further is alerted to the fact that there are coagulase-negative as well as coagulase-positive staphylococci. The so-called coagulase-negative group of organisms seem to seldom produce any significant clinical disease and rarely tend to produce epidemic types of staphylococcic infections. He is also aware of the fact that, having had one staphylococcic infection, it does not confer a definite immunity against a subsequent one.

In this antibiotic era, we have taken delight in feeling that penicillin acted to markedly improve the outlook in most severe infections. Recently, we have learned that staphylococci seem to be the most resistant of organisms and have an unusual capacity to adapt themselves to a resistant phase to many of the newer antibiotics. The numerous epidemics of staphylococcic disease reported in maternity, pediatric and surgical divisions of many of our hospitals in this country and throughout the world have served to focus our attention upon this staphylococcic problem; already about 500 such epidemic outbreaks have been reported in our American hospitals. We have come to realize that the occasional case of impetigo in a newborn infant is more than a mere nuisance and the development of breast abscess in a nursing mother may well be the initial clinical manifestation which should tip us off to the posibility of an impending epidemic of serious staphylococcic disease in that particular hospital or in our community.

Infections in Newborn

The medical profession has always been concerned with infections in newborn infants. We have realized for many years that the average hospital nursery is not an ideally safe place for the newborn infant. After the hazardous first 24 hours of life, during which the presence or absence of birth trauma, congenital malformations, and the presence or absence of asphyxia may be determined, we probably would all breathe easier if infants were allowed to go home. However, because of the need for continued care for the mother, early release of infants from the hospital, to control nursery infections, is not often carried out. Newborn infants are particularly susceptible to infection after passive immunity, acquired from their mothers, has declined.

He's not the father, he's the doctor. This was his first delivery.

The usual newborn nursery presents a hazard to the infant because of frequent overcrowding with undue closeness of the bassinets. Too, there are frequently numbers of nonprofessional personnel who, because of their very background, are apt to be not too well informed as to the virtues of aseptic techniques. All of us, as doctors, and other personnel, have probably developed a false sense of security as regards infection because of the widespread use of antibiotics, so that we frequently allow our nursing technique and "good housekeeping" to become somewhat lackadaisical. As physician attendants in the newborn nursery, we have frequently failed to recognize such commonplace lesions as pyoderma and conjunctivitis in the newborn as possible forerunners of disastrous epidemics with serious complications and, thereby, have allowed epidemics to develop before control measures are established.

Clinical Manifestations of Staphyloccal Infections in Infants

It is quite easy to overlook mild staphylococcal infections in the newborn period. Such infections are usually manifested by conjunctivitis, pustular rashes or paronychia. These rashes may be deemed simply a heat rash or diaper irritation, or the eye conjunctivitis be considered a chemical conjunctivitis. The rash may, at times, be considered an erythema toxicum neonatorum, but this should not produce differential diagnosis difficulty because a stained smear of a vesicle in this condition shows a solid spread of eosinophiles. The skin is probably the commonest site for staphylococcal infections in infancy, the usual lesion being a tiny vesicle, 2 to 10 mm. in diameter, usually filled with a thin, cloudy fluid. This lesion is called *pyoderma*. These pyodermic vesicles are larger than the lesions of erythema toxicum and usually occur later in the first week of life. The most commonly are noted in the folds of the skin in the region of the axilla or the groin.

Lesions of this type are almost without exception due to *Staph. aureus* and culture of the contents of the vesicles should establish such a diagnosis.

Any *conjunctivitis* appearing in the newborn should be considered of *Staph. aureus* origin until cultures prove otherwise. This particular lesion is usually mild, evidenced only by a scanty yellow discharge and reddened sclera. *Paronychia* is first evidenced by some inflammatory changes noted around the nail bed with pus formation and is almost invariably due to *Staph. aureus*. In most of the epidemics of staphylococcic infections in the newborn, *purulent mastitis* has been evident. Such mastitis is usually unilateral, in distinction to the hormonal engorgement of the breasts noted in the first week or so of life. If due to staphylococcal infection, such a mastitis usually ends in definite abscess formation. It is believed that such instances of abscess formation in the breast do not arise from a staphylococcal septicemia but from direct extension from the infant's skin via the mammary ducts. A breast abscess in an infant is seldom seen except in the presence of an epidemic of staphylococcal infection. It is believed that infants born during an epidemic of staphylococcic infection in the nursery will manifest some form of staphylococcic disease in at least 25 percent of the babies and that many other infants will develop evidences of infection after they leave the hospital. Other infants may, however, harbor the epidemic type of organism without any symptoms of infection.

Nursing mothers may develop breast abscesses due to *Staph. aureus* in about 20 to 30 percent of the instances if they nurse their babies during an epidemic. The usual incubation period for the development of such abscesses is three or four weeks. Obviously, only a careful follow-up of the mother's welfare after she leaves the hospital will establish this possible relationship of staphylococcal infection acquired in the hospital.

It is a known fact that this type of infection arises from the oropharynx of infected infants. In most instances the nursing infant will have evidenced manifestations of staphylococcic disease, such as conjunctivitis or pyoderma. The act of sucking can definitely inject organisms into the mammary gland and this is the mechanims by which the breast tissue of the mother is usually infected.

The most severe form of staphylococcic infection which occurs in the newborn period and the most critical of all is probably that of staphylococcic pneumonia. This is frequently difficult to diagnose at its onset because the infant may present nothing but just an over-all picture of not appearing well with associated lethargy and poor eating habits. In such an infant, it is always well to investigate his problem by blood cultures and an x-ray of the chest. This type of pneumonia, notoriously, is associated with pyopneumothorax.

Shaffer noted a positive blood culture for *Staph. aureus* in seven of 15 cases of staphylococcal pneumonia observed at the Children's Hospital in Columbus, Ohio during the past three years.

True *omphalitis* is not too commonly observed in the newborn period with infants having *Staph. aureus* infections but more commonly such infants show areas of pyoderma about the umbilicus. Occasionally abscess formation or cellulitis may occur as a complication of pyoderma. Any type of surgical wound in an infant with pyoderma is likely to become infected so that elective operations, such as circumcision, should not be done if an infant is obviously infected with *Staph. aureus* nor in any infant who comes from a nursery where an epidemic of staphylococcic infection has been present. If there is any question about the safety of doing the operation, one should take a nasal culture and proceed if the culture is negative for coagulase-positive staphylococci. ■

■ EVERYONE REALIZES THE DANGER those persons are in who have medical problems, when rendered unconscious by accident or other means. Pocket cards are usually of little value and a woman's purse is often separated from her under these conditions. The Medic Alert Emblem is the only universally known and easily recognized means of identifying those with medical problems.

The idea of Medic-Alert evolved from the almost tragic death of a daughter of Dr. Marion C. Collins, because her allergy to tetanus antitoxin serum had not been emphasized properly. It was the decision of the Collins and R. L. Puccinelli families to find a standard method of protecting millions of people under similar circumstances, where they are helpless, either through shock or unconsciousness. An artistic silver amulet bracelet to be worn by men, women and children at all times was designed. The face side of the amulet flashes the warning words: Medic-Alert. The reverse side indicates the medical problem of the wearer.

These bracelets are worn by diabetes, epileptics, hemophiliacs, persons with severe allergies; persons taking antabuse, digitalis, dilantin, anti-coagulants and cortisone; and persons who want their blood type readily identified. Bulletins have been sent to every hospital in the United States and Canada, as well as law enforcing agencies in both countries, to alert the personnel to watch for individuals wearing the Medic-Alert emblem.

Full membership in the Medic-Alert Foundation provides a Sterling Silver Emblem of one of three styles and a membership certificate on which is recorded a serial number, the name, address and medical problem of the member and any other necessary information. A duplicate certificate is kept on file in the central office where its information is available 24 hours a day. Beyond the initial fee of $5.00, no other dues are required.

Associate membership for $2.00 provides a nickel plated emblem which is not serialized. However, the names of associate members are kept on file.

Among the organizations endorsing and promoting the Foundation are the Diabetes Association of Southern California, California Epilepsy Society, Northern California Branch of National Hemophilia Foundation, Sacramento County Society for Crippled Children and Adults and the California Peace Officers Association.

Further information may be obtained by writing the MEDIC-ALERT foundation 1030 Sierra Drive, Turlock, California. ■

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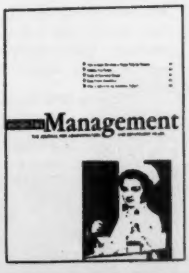

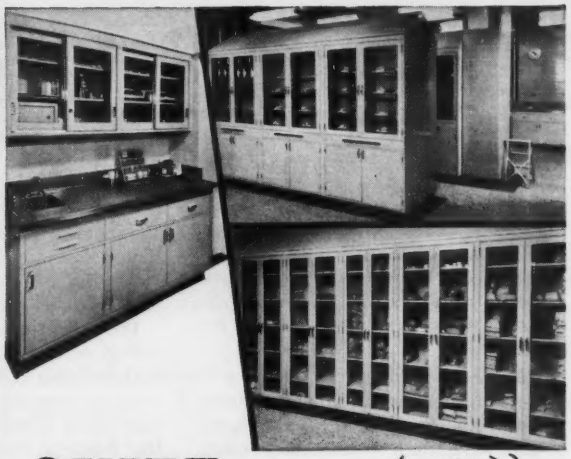

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The Cry for Freedom from Sickness and Pain

■ THE LIFE, liberty, and pursuit of happiness clause of our Constitution is not a piece of Eighteenth Century rationalism. It is in essence man's urgent and ever-present cry for freedom from sickness and pain. This receptiveness to anything that doctor and health worker can do to alleviate pain and misery was well expressed by Oliver Wendell Holmes when he said:

"There is nothing that men will not do, there is nothing they have not done, to recover their health and save their lives. They have been submitted to be half-drowned, half choked with gasses, to be buried up to their chins in earth, to be seared with hot irons like galley slaves, to be crimped with knives like a cod-fish, to have needles stuck into their flesh and bonfires kindled on their skin, to swallow all sorts of abominations—and to *pay* for all this, as if to be singed and scalded were a costly privilege and if blisters were a blessing and leeches a luxury . . ."

In this respect, the patient hasn't changed at all. Today, a man will permit a tube to be thrust into the center of his beating heart, have delicate nerves cauterized, metal plates screwed to his bones, holes sawed in his skull, and innermost recesses of his interior probed with steel hooks. He will bear all manner of indignities and excruciating pain to recover the health that often need never have been so jeopardized had he taken the ounce of prevention urged by his physician.

People are still giving up the comforts and familiarity of home and flocking to hospitals. . . . . They keep on coming in spite of the fact that they know when they get to the hospital they will probably be waked at 5:30 in the morning for their "bath"—given by a nurse's aide using a small basin of tepid water. They will then experience an hour's wait, in which they can reflect on their sins of omission and commission if they are that kind of people. Or they can worry: about whether Towser will chew the new rug, about Johnny's tendency to go to school unwashed and without breakfast, and about little Cecelia's sore throat.

Then comes breakfast. If you look carefully you can see that this was once food. The toast even looks like toast. Some of the other things on the tray have been so completely worked over that their semblance to the original products of field and kitchen is pretty well lost. What is supposed to be hot is cold and vice versa.

So begins the hospital day—not in some back ward of a chronic disease or mental hospital but in our most famous and renowned teaching hospitals.

The rest of the day also contains its measure of equally dispiriting and disquieting events: the arrival of the medical teams who seem to have developed a special jargon for communication which keeps the patient in foreboding ignorance; the bitter grapplings with death that come from a critically ill patient three beds down the ward; the repeated physiologic insult which each meal brings. ■

—John D. Porterfield, M.D.

Women see physicians more often than men do, especially at the ages of 15 through 44. During childhood, however, boys receive more medical care than girls. Health Information Foundation.

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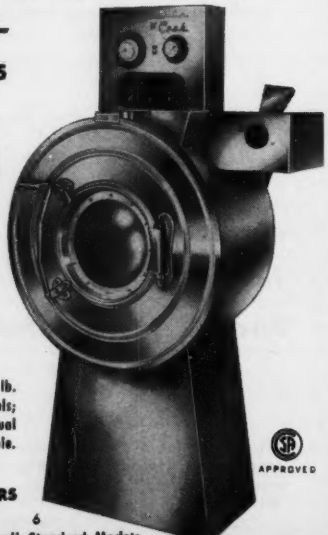

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Emergency Evacuation of Chronically Ill Patients

by Robert W. Walker

Administrator
State Tuberculosis Hospital
Paris, Kentucky

■ HOW should we plan for evacuation in case of fire? Other types of evacuation are similar in most respects, but the urgency is usually less pressing with more time available. The first step in establishing a fire evacuation plan is to set up a prearranged plan and then be sure everyone is familiar with it. Above all, be sure that everyone has practiced it enough to carry out his assigned duties without hesitation or confusion in an emergency.

There are four basic steps in any fire emergency procedure that every employee should know.

1. Remove patients in immediate danger.
2. Turn in the alarm.
3. Close doors, windows and fire doors in the immediate area.
4. Get the nearest appropriate extinguisher and start fighting the fire.

Extinguishers

What do we mean by "appropriate extinguishers?"* Generally you will have three types of extinguishers in your hospital—foam, soda acid and CO_2. One is the wetting type—that is soda acid—another is a smothering type—the foam, and the third is an oxygen-consuming type—the CO_2. If there is a grease fire in the kitchen you would not use water to extinguish the flame since that would merely spread the fire—a CO_2 or foam extinguisher would be proper. For electrical fires the best extinguisher would be a CO_2, although a foam would be permissible.

For these reasons each employee should be familiar with the types of fires and the correct extinguisher to use. Otherwise, he *could* do more harm than good.

All employees should also be instructed in the steps to follow in case total or partial evacuation of patients is ordered.

If the hospital has a prearranged program, then every employee will have a preassigned duty to perform and will know what it is. In this way wasted motion and confusion can be cut to a minimum.

The second cardinal rule to follow is *"avoid panic."* The greatest danger in most fires is panic. Patients should never be alarmed by excited motion. They look to the hospital personnel for protection. We should appear to be calm and move with assurance at all times.

Don't Yell "Fire"

The word *"fire"* should never be used. A code word should be designated to be used in case of a fire drill or a real fire. In our hospital we have chosen the word *"drill"* to designate a fire. When a fire drill is called or on the infrequent times that a fire is discovered, the person reporting the fire will say "Drill, grease in the main kitchen." This notifies everyone that there is a drill or a fire (no one knows which), that it is located in the main kitchen, and the type—grease burning.

One of the best ways to prevent panic among patients and personnel is to have regular and frequent fire drills. Everyone becomes familiar with the procedures and the movements become natural.

Fear of the unknown is one of the greatest fears. In the chronic disease hospital, where the patient may stay for years, by seeing and hearing, and participating in a fire drill once a month, he will soon know what to do and what to expect in case of a real fire. He, in turn, will be a stabilizing influence.

The third rule is *"avoid congestion"*. We not only have to evacuate the patients, but must have exits and stairwells available for the movement of fire fighting personnel and equipment. A multi-story hospital with three or more stairwells and elevators, for example, should designate the stairwells near the ends of the building for the downward evacuation of patients, while the stairwell near the center of the building should be reserved for fire fighting personnel.

The elevators cannot be considered in the plan, because in all probability the main power supply will be cut off if the fire is serious enough to require total or partial evacuation.

Evacuation of chronically ill patients in a long-term hospital does not create the problems that are found in the general hospital.

Having few surgical or orthopedic beds, most of our patients would be ambulatory in case of emergency.

Nurses Responsible

The nursing personnel** should be primarily responsible for the

*See Hospital Management, page 45, February, 1958, "The Engineer's Responsibility for the Safety Features of the Hospital."

**See Hospital Management, page 52, January, 1958, "Real Fire Training Is Real Life Insurance"; also page 86, "Putting Fire Safety on the Map" September, 1958.

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evacuation of the patients in a chronic disease hospital. They may be assisted by other employees who are maintained in a pool for special assignments where needed.

Generally the nursing department's duties in case of fire would be similar to this:

Upon notice of a *"drill"* the aides and practicals report to their floor immediately. Evacuate any patients in immediate danger, then see that all patients are in their room and close all doors and windows. They then standby for evacuation instructions from the registered nurse.

The floor nurse, upon notice of a *"drill"*, reports to her floor and supervises the duties of the practicals and nurse aides. She waits instructions from the director of nurses for evacuation of the patients.

The director of nurses, upon notice of a *"drill"*, reports to the administrator and fire marshall and receives instructions relative to evacuation of the patients. If no evacuation is ordered she then checks to see that all patients are in their rooms and that all doors and windows in the patient areas are closed.

Procedures should also be set up for protection or evacuation of patient records, charts, x-rays and other medical records, some accumulated over a period of years. Cash, accounting records and correspondence should also be removed if possible.

Lines of Responsibility

Generally we might break the responsibility down in this manner:

Maintenance personnel responsible for actual fire fighting.

Nursing personnel responsible for patients' areas and patient evacuation.

Laundry, dietary and housekeeping personnel—fire extinguishers.

Administrative, laboratory, medical records and x-ray personnel, storage and evacuation of records, films, monies and other perishable records.

Different variations of this division of responsibility in accordance with a hospital's particular need have to be worked out. With the proper plan and the number of people working in the hospital, provisions can be made to take care of all these contingencies.

Good housekeeping is the best guarantee against fire. If we will do all we can to maintain order and cleanliness in our hospital, the possibility of having a catastrophic fire will be greatly reduced. ■

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Assistant Professor
Department of Institution Management
New York State College of Home Economics
Cornell University
Ithaca, New York

by Mary K. Bloetjes, Ph.D.

Professor and Head
Department of Institution Management
New York State College of Home Economics
Cornell University
Ithaca, New York

Frozen Factory-Prepared Menus

Table 1. Equipment and Utensils for Processing 16 Fresh Kitchen-Prepared Menu Items, and Number of Times Each Used.

(Read from left to right across. Each process has separate alphabetizing of equipment and process.)

Elec. - Electric MK - Main Kitchen PK - Pastry Kitchen SJK - Steam-Jacketed Kettle EQUIPMENT	UTENSILS	FRESH KITCHEN-PREPARED MENU ITEMS 1. APPLE PIE	2. BEEF PIE	3. BROCCOLI, Buttered	4. CAKE, Choc. Fudge	5. CHEESE CAKE	6. CHICKEN A LA KING	7. CHILI CON CARNE	8. CLAM CHOWDER	9. MEAT-BALLS & SPAGHETTI	10. MEAT LOAF	11. POTATOES AU GRATIN	12. POTATOES, F. F.	13. SPINACH, Buttered	14. TUNAFISH PIE	15. TURKEY PIE	16. WAFFLES
1. BAKE																	
(a)MK stove	(f)Bake pans	1xb	1xa		1xb					1xa	1xa	1xa			1xa	1xa	1xc
(b)PK oven	(g)Bake sheets	8xi	4xf		1xd					2xg	8xj	4xf			4xd	4xd	1xe
(c)Waffle iron	(h)Cake pans				16xh										4xe		
(d)Portable cake rack	(i)Pie pans																
(e)Sandwich table	(j)Loaf pans																
2. BOIL																	
(a)MK-SJK	(c)Stock-pot, 6 gal.		1xd	1xa	1xb		1xa			1xa				1xa		1xd	
(b)PK-Stove, small round	(d)Stock-pot, 3 gal.				2xe					2xc							
	(e)Pot, 2 qt.																
3. BRAISE																	
(a)MK-SJK			1xa				1xb	1xa									
(b)MK-Oven																	
4. CHILL	(c)Refrig.-Meat room																
(a)MK refrig.	(d)Pie tins		1xc	1xa	1xb	3xb		1xc			1xc						
(b)PK refrig.						8xd											
5. CHOP																	
(a)MK elec. "Buffalo" chopper	(d)Chop-board, MK							2xa	1xa	2xa	2xa	1xa			2xb		
(b)Table #1, MK	(e)Knife, 10", MK								1xb	2xc	2xb				2xd		
(c)Table #2, PK									1xc		2xc				2xe		
									1xd		2xd						
									1xe		2xe						
6. CUT																	
(a)Julienne cutter, by hand	(e)Chop-board, MK		1xb			1xd	6xc		1xc	1xb	1xb		1xa		3xc	5xc	
(b)Meat-block	(f) " " , PK		4xc			1xf	6xe		1xe	1xc	1xh				3xe	5xe	
(c)Table #1, MK	(g)Knife-10", MK		4xe			1xj	6xi		1xi	1xe					3xg	5xg	
(d)Table #2, PK	(h) " -10", Meat		1xh							1xh							
	(i) " - 3", MK		4xj							1xi							
	(j) " - 3", PK																
7. FRY																	
(a)Deep-fat fryer													2xa				
(b)Auxiliary table, MK, 40"x40"													2xb				
8. GRATE																	
(a)MK grater, by hand						1xa											
9. GRIND																	
(a)MK table #2								1xa		1xa	1xa	1xa					
(b)Grinder attach., MK elec. mixer								1xb		1xb	1xb						
10. HEAT																	
(a)Baine-marie, MK	(d)Stock-pot, 6 gal.		1xb	1xc	2xc	1xc			2xa	2xa		1xa		1xc	1xa	3xa	
(b)MK range																	
(c)Baine-marie, Veg. cook.																	
11. MEASURE		8xa	3xa	1xa	1xa	12xa	3xc	2xa	3xb	1xa	3xa	2xc		1xd	3xa	2xa	2xa
	(a)cup (b)gal.	1xc	2xc		1xc	6xd	3xd	1xb		3xc	1xc	2xd			1xb	1xb	
	(c)qt. (d)spoons	2xd	3xd		3xd			2xc		3xd	1xd				2xd	3xd	
								4xd									
12. MIX or BEAT																	
(a)MK elec. mixer	MIXER BOWLS																
(b)PK elec. mixer	(i)80-qt. (l)30-qt.	1xc	1xd		2xb	1xb				1xa	1xe	1xd			1xa	1xd	1xh
(c)PK pastry blender attach., elec. mixer	(j)60-qt. (n)20-qt.	1xd	1xe		2xf	2xf				1xe	1xe				1xd		1xo
	(k)40-qt. (n)12-qt.	1xj			2xg	1xl				1xi	1xi				1xk		
(d)MK table #1	(o)3-qt. pot with handle				1xj	3xn											
(e)MK table #2					1xl												
(f)PK table #1					1xm												
(g)PK table #2																	
(h)Sandwich table																	
13. MOLD																	
(a)Food-dipper #20, by hand										1xa							
(b)MK table #1										1xb							

Their Influence on Equipment, Utensils and Layout Needs of Institution Kitchens

Part I

■ CURRENT TRENDS IN FROZEN FOOD MARKETING indicate an increasing use of frozen factory-prepared menu items in quantity meal operations, as in restaurants, hotels, hospitals, schools and institution food service.

Frozen prepared menu items were developed during World War II to provide hot palatable meals for men on extended missions by naval aircraft, and were adopted by the other

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An abstract of a thesis presented by Regina Gottlieb in partial fulfillment of the requirements for the degree of Master of Science at Cornell University, 1956.

Table I (continued). Equipment and Utensils for Processing 16 Fresh Kitchen-Prepared Menu Items, and Number of Times Each Used.

(Read from left to right across. Each process has separate alphabetizing of equipment and process.)

Elec. - Electric
MK - Main Kitchen
PK - Pastry Kitchen
SJK - Steam-Jacketed Kettle

EQUIPMENT	UTENSILS	FRESH KITCHEN-PREPARED MENU ITEMS: 1. APPLE PIE	2. BEEF PIE	3. BROCCOLI, Buttered	4. CAKE, Choc. Fudge	5. CHEESE CAKE	6. CHICKEN A LA KING	7. CHILI CON CARNE	8. CLAM CHOWDER	9. MEAT-BALLS & SPAGHETTI	10. MEAT LOAF	11. POTATOES AU GRATIN	12. POTATOES, F. F.	13. SPINACH, Buttered	14. TUNAFISH PIE	15. TURKEY PIE	16. WAFFLES
11. PEEL																	
(a)Elec. peeler	(c)Knife-3"		1xa								1xb	1xa	1xa		1xb	1xa	
(b)MK table #1											1xc				1xc		
15. PRESS																	
(a)Garlic press, by hand								1xa									
16. ROLL																	
(a)MK table #1	(c)Rolling pin	1xb													1xa		
(b)PK table #1		16xc													1xc		
17. SAUTE																	
(a)MK range	(c)Skillet		1xa						1xa	1xb							
(b)MK oven			1xb						1xc	1xc							
18. SIFT or SIEVE																	
(a)Pureer attach., PK elec. mixer	(c)Sieve, hand use (d)Sifter " "		1xb 1xd		1xd	1xa 1xb										1xb 1xd	1xb 1xc
(b)MK table	(e)Mixer bowl, 12-qt.					1xe											
19. SIMMER																	
(a)SJK-MK	(b)Stock-pot, 9 gal.		1xa				1xa	1xa				1xb			1xb	1xa	
	(c)Stock-pot, 6 gal.						1xb									1xb	
20. SLICE																	
(a)Slicer attach., MK elec. mixer												1xa					
(b)MK table #2												1xb					
21. STEAM																	
(a)SJK-MK			1xb				1xb		2xb						3xb	6xb	
(b)Veg. steamer																	
22. STIR - by hand																	
	(a)Stirring spoons, 15"		1xa		3xa	1xa	1xa	1xa	2xa	1xa		2xa		1xa	3xa	3xa	
	(b)Stirring paddle		1xb				1xb	1xb									
23. STRAIN or DRAIN																	
	(a)Colander								1xa								
24. THAW																	
(a)MK refrig.			1xa		1xb	1xb				1xa	1xa					2xa	
(b)MK table, auxiliary																	
(c)PK refrig.																	
25. TOAST																	
(a)Gas and elec. toaster							1xa										
26. TRIM																	
(a)Meat-block	(d)Chop-board, veg.		1xa	1xc			3xc	1xa	1xb	1xa	1xc	1xb	1xb	1xc	1xb	1xb	
(b)Potato sink	(e)Meat knife-10"		1xb	1xd			3xd	2xc	1xc	2xc	1xg	1xg	1xg	1xd	1xc	3xc	
(c)Veg. "	(f)Veg. " -10"		3xc	1xf			3xg	1xe	2xg	1xe				1xf	1xd	3xd	
	(g)Veg. " - 3"		3xe					2xg		2xg					2xg	4xg	
			1xf														
			4xg														
27. WASH																	
(a)Potato sink			1xa	1xb			3xb	2xb	2xb	2xb		1xa	1xa	1xb	1xa	1xa	
(b)Veg. "			1xb												1xb	3xb	
28. WEIGH																	
(a)MK scales		1xc	1xa	3xa	38xc	4xc	6xa	5xa	2xa	7xa	1xa	8xa	1xa	3xa	10xa	9xa	
(b)Meat-room scales			3xb					1xb	1xb	1xb	1xb						
(c)PK scales																	
29. WHIP (Elec. mixer)																	
(a)PK, 30-qt.	(d)30-qt. bowl				1xa	2xb											
(b)PK, 20-qt.	(e)20-qt. bowl				1xd	1xc											
(c)PK, 12-qt.	(f)12-qt. bowl					2xa											
						1xf											

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branches of the military in the course of the war. The success of these foods gave rise to a new industry after the war which has made rapid progress. A survey conducted by the United States Department of Agriculture,[1] in a canvass of 80 to 90 percent of the frozen factory-prepared foods industry, showed a production of 533,887,410 pounds in 1955, which was an increase of 67 percent over the previous year.

The frozen-prepared foods now obtainable commercially consist of a wide variety of appetizers, soups, entrees, vegetable dishes, cakes, pastries and breads, such as coffee cake. Much of the appeal of these frozen factory-prepared menu items is the small amount of time and/or labor required in the kitchen to finish them for service. Some require only thawing, such as cheese-cake; some only reheating, such as beef stew; others, partially cooked, require a simple final cooking step, such as chicken pie with finished filling but with crust to be baked.

Economy of labor frequently accounts for the popularity of frozen factory-prepared menu items. Precosting is made easier by the use of these foods, and is further facilitated by frozen foods purchased preportioned. Since preparation of frozen menu items requires little time, amounts prepared can be gauged closely to actual needs, and unexpected orders can be quickly filled. Thus, overproduction is reduced to a minimum or eliminated.

The significance of quality food service operations is reflected in an estimate made by the National Restaurant Association which showed

Table 2. Equipment and Utensils for Processing 16 Frozen Factory-Prepared Menu Items, and Number of Times Each Used.

(Read from left to right across. Each process has separate alphabetizing of equipment and process.)

Elec. - Electric MK - Main Kitchen PK - Pastry Kitchen SJK - Steam-Jacketed Kettle FROZEN FACTORY-PREPARED MENU ITEMS EQUIPMENT / UTENSILS	1. APPLE PIE	2. BEEF PIE	3. BROCCOLI, Buttered	4. CAKE, Choc. Fudge	5. CHEESE CAKE	6. CHICKEN A LA KING	7. CHILI CON CARNE	8. CLAM CHOWDER	9. MEAT-BALLS & SPAGHETTI	10. MEAT LOAF	11. POTATOES AU GRATIN	12. POTATOES, F. F.	13. SPINACH, Buttered	14. TUNAFISH PIE	15. TURKEY PIE	16. WAFFLES
1. BAKE (a)MK stove (b)PK oven (c)Waffle iron (d)Portable cake rack (e)Sandwich table (f)Bake pans (g)Bake sheets (h)Cake pans (i)Pie pans (j)Loaf pans	1xb	1xa								1xa	1xa			1xa	1xa	
2. BOIL (a)MK-SJK (b)PK-Stove, small round (c)Stock-pot, 6 gal. (d)Stock-pot, 3 gal. (e)Pot, 2 qt.			1xb						1xb				1xb			
3. BRAISE (a)MK-SJK (b)MK-Oven																
4. CHILL (a)MK refrig. (b)PK refrig. (c)Baking-Meat Rack (d)Pie tins																
5. CHOP (a)MK elec. "Buffalo" chopper (b)Table #1, MK (c)Table #2, MK (d)Chop-board, MK (e)Knife, 10", MK																
6. CUT (a)Julienne cutter, by hand (b)Meat-block (c)Table #1, MK (d)Table #2, PK (e)Chop-board, MK (f) " " , PK (g)Knife-10", MK (h) " -10", Meat (i) " - 3", MK (j) " - 3", PK													1xc 1xg			
7. FRY (a)Deep-fat fryer (b)Auxiliary table, MK, 40"x40"												1xa				
8. GRATE (a)MK grater, by hand																
9. GRIND (a)MK table #2 (b)Grinder attach., MK elec. mixer																
10. HEAT (a)Baine-marie, MK (b)MK range (c)Baine-marie, Veg. cook. (d)Stock-pot, 6 gal.			1xc			1xa	1xa	1xa 1xd	1xa				1xc			
11. MEASURE (a)cup (b)gal. (c)qt. (d)spoons			1xa				1xb		1xa				1xa			
12. MIX or BEAT (a)MK elec. mixer (b)PK elec. mixer (c)PK pastry blender attach., elec. mixer (d)MK table #1 (e)MK table #2 (f)PK table #1 (g)PK table #2 (h)Sandwich table MIXER BOWLS (i)80-qt. (l)30-qt. (j)60-qt. (m)20-qt. (k)40-qt. (n)12-qt. (o)3-qt. pot with handle																

the total expenditures for meals in the U.S.A. in 1955 to be $92,055,900,000, of which $17,055,900,000, (18.5 percent) was for meals served outside the home.[2] It was asserted by this Association that the meal service industry ranks fourth in size of all industries in net income, and that it ranks first in number of people gainfully employed. Ahrens reported the distribution of patronage of eating establishments for 1951 (the military excluded) to be 69.06 percent for restaurants and hotels, 4.28 percent for hospitals and 26.66 percent for all other types of institutions.[3]

Scientific management, which serves industry so successfully, is also applicable to meal service operation. The objective of industrial management is the manufacture of its product at the desired quality for the lowest possible cost. In meal operation, the product to be manufactured is the menu item. The food manager must establish the use of standardized recipes, standard portions and, in general, control all factors affecting the cost of the product in order to set a fair selling price and obtain a fair profit. One of the principles in scientific management is layout design. Bloetjes observes that analysis of the menu and the recipe processes is basic for determining equipment, location and space requirements, and adds that new developments, as ready-to-cook or -serve foods, may reduce preparation and refrigeration areas and increase deep-freeze space.[4] Bethel

Table 2 (continued). Equipment and Utensils for Processing 16 Frozen Factory-Prepared Menu Items, and Number of Times Each Used.

(Read from left to right across. Each process has separate alphabetizing of equipment and process.)

Elec. - Electric MK - Main Kitchen PK - Pastry Kitchen SJK - Steam-Jacketed Kettle EQUIPMENT	UTENSILS	FROZEN FACTORY-PREPARED MENU ITEMS 1. APPLE PIE	2. BEEF PIE	3. BROCCOLI, Buttered	4. CAKE, Choc. Fudge	5. CHEESE CAKE	6. CHICKEN A LA KING	7. CHILI CON CARNE	8. CLAM CHOWDER	9. MEAT-BALLS & SPAGHETTI	10. MEAT LOAF	11. POTATOES AU GRATIN	12. POTATOES, F. F.	13. SPINACH, Buttered	14. TUNAFISH PIE	15. TURKEY PIE	16. WAFFLES
13. MOLD (a)Food-dipper #20, by hand (b)MK table #1																	
14. PEEL (a)Elec. peeler (b)MK table #1	(c)Knife-3"																
15. PRESS (a)Garlic press, by hand																	
16. ROLL (a)MK table #1 (b)PK table #1	(c)Rolling pin																
17. SAUTÉ (a)MK range (b)MK oven	(c)Skillet																
18. SIFT or SIEVE (a)Pureer attach., PK elec. mixer (b)MK table	(c)Sieve, hand use (d)Sifter, " " (e)Mixer bowl, 12-qt.																
19. SIMMER (a)SJK-MK	(b)Stock-pot, 9 gal. (c)Stock-pot, 6 gal.						1xc	1xc	1xc								
20. SLICE (a)Slicer attach., MK elec. mixer (b)MK table #2																	
21. STEAM (a)SJK-MK (b)Veg. steamer																	
22. STIR - by hand	(a)Stirring spoons, 15" (b)Stirring paddle								1xa	1xa							
23. STRAIN or DRAIN	(a)Colander, 10"																
24. THAW (a)MK refrig. (b)MK table, auxiliary (c)PK refrig.					1xc	1xc				1xa		1xa		1xb			
25. TOAST (a)Gas and elec. toaster							1xa										1xa
26. TRIM (a)Meat-block (b)Potato sink (c)Veg. "	(d)Chop-board, veg. (e)Meat knife-10" (f)Veg. " -10" (g)Veg. " - 3"																
27. WASH (a)Potato sink (b)Veg. "																	
28. WEIGH (a)MK scales (b)Meat-room scales (c)PK scales										1xa			1xa				
29. WHIP (Elec. mixer) (a)PK, 30-qt. (b)PK, 20-qt. (c)PK, 12-qt.	(d)30-qt. bowl (e)20-qt. bowl (f)12-qt. bowl																

et al assert that industry must maintain or better its competitive position by replacement of equipment which has depreciated in usefulness due to time, wear or decline in demand for its use.[5] Equipment may be good mechanically, Spriegel and Lansburgh write, and yet it may be unproductive because of new products or processes, thereby yielding it obsolete and worthless.[6]

It is the purpose of this study to show the influence on layout, equipment and utensil requirements, which may be effected by the use of frozen factory-prepared menu items. The results of such a study could be used in the planning of institution kitchens and would tend to focus the attention of the dietitian or food manager, the administrator, architect and engineer on the importance of interpreting recipe requirements in order to establish realistic specifications for equipment and layout.

Methodology

The study herewith reported consisted of a comparison of equipment, utensil and layout needs between fresh kitchen-prepared and frozen factory-prepared menu items. The investigation was conducted during the regular operation of the cafeteria kitchen in the New York State College of Home Economics at Cornell University. This cafeteria serves approximately 1,800 meals daily.

Charting of Equipment and Utensil Usage

The 16 menu items selected were incorporated in the cafeteria menus during the period of the study. When one of these items appeared on the menu, half of the number of servings needed were prepared from fresh ingredients in the home economics cafeteria kitchen, according to the standardized recipes regularly used in the department. The other half of the servings were purchased frozen factory-prepared and were finished in this kitchen, according to the instructions on the packages.

Please turn to page 105

Table 3. Types of Equipment and Times Used for 16 Fresh Kitchen-Prepared Menu Items Compared with the same Menu Items Frozen Factory-Prepared.

FRESH KITCHEN-PREPARED MENU ITEMS	BAINE/MARIE, M. K.	BAINE/MARIE, Veg. Cook	DEEP-FAT FRYER	ELECTRIC CHOPPER "BUFFALO"	ELECTRIC MIXER, M. K.	BEATER ATTACHMENT-80 qt.	BEATER " -40 qt.	SLICER "	GRIDDER	#1 ELECTRIC MIXER, P. K.	BEATER ATTACHMENT-60 qt.	BEATER " -30 qt.	PASTRY BLENDER ATTACH.-30 qt.	#2 ELECTRIC MIXER, P. K.	WHIP ATTACHMENT-12 qt.	WHIP ATTACHMENT-30 qt.	WHIP " -20 qt.	WHIP " -12 qt.	CUISINNE CUTTER	MEAT BLOCK	OVEN-3 DECK, M. K.	OVEN-3 DECK, P. K.	POTATO PEELER, Electric	RACK, Portable	RANGE, M. K.	REFRIGERATOR, M. K.	REFRIGERATOR, P. K.	SCALES, M. K.	SCALES, Meat Room	SCALES, P. K.	SINK, M. K.	SINK, Potato	SINK, Veg. Prep.	STEAMER, Vegetable	STEAM-JACKETED KETTLE	STOVE, Small, Round, P. K.	TABLE, M. K. #1	TABLE, M. K. #2	TABLE, M. K., Auxiliary	TABLE, Meat Room	TABLE, P. K. #1	TABLE, P. K. #2	TABLE, Sandwich	TOASTER, Gas & Electric	WAFFLE IRON	TOTAL
APPLE PIE											x		x									x								9 x									2 x	x					15
BEEF PIE																				x	x		x			x			9 x	x		x	x	3 x		x		2 x					24
BROCCOLI, Buttered		2 x																								x			3 x						x									7
CAKE, Chocolate Fudge		x									x	x				x	x					x					2 x		35					x						2 x	2 x			53
CHEESE CAKE		x							x						x		x	2 x									3 x												2 x	2 x			18
CHICKEN A LA KING				2 x												x				x					x			7 x					3 x		2 x		6 x					x		21
CHILI CON CARNE																				x						x			3 x	x		x		2 x	2 x		2 x							20
CLAM CHOWDER	2 x			x																					x				3 x	x				2 x			3 x				x			19
MEAT-BALLS & SPAGHETTI	x			2 x		x														x	2 x				x			7 x	x		2 x		2 x			3 x							27
MEAT LOAF				x		x														x	x					x			x	x				x										15
POTATOES AU GRATIN	x			x				x													x		x						6															16
POTATOES, French Fried		2 x																	x				x						3 x				x											9
SPINACH, Buttered		x																											3 x						x									6
TUNAFISH PIE	2 x						x														x		x		2 x				10 x							3 x		1 x						30
TURKEY PIE	2 x																				x		x		2 x	x			9 x						x	3 x	x	1 x						32
WAFFLES																																										x		x	2
TOTAL	9	5	2	7		2	1	1	1		2	1	1		1	1	2	2	1	4	8	2	5	1	5	7	5	66	5	51	3	6	18	10	13	1	14	14	2	3	7	5	1	1	1	314
FROZEN FACTORY-PREPARED MENU ITEMS																																													
APPLE PIE																						x						x																2
BEEF PIE																					x																							1
BROCCOLI, Buttered		x																																	x									2
CAKE, Chocolate Fudge																												x																1
CHEESE CAKE																												x																1
CHICKEN A LA KING	x																																									x		2
CHILI CON CARNE																									x																			1
CLAM CHOWDER	x																																											1
MEAT-BALLS & SPAGHETTI	2 x																									x		x							x									5
MEAT LOAF																					x																							1
POTATOES AU GRATIN																					x					x																		2
POTATOES, French Fried			x																									x																2
SPINACH, Buttered		x																										2 x							x									5
TUNAFISH PIE																					x																							1
TURKEY PIE																					x																							1
WAFFLES																																										x		1
TOTAL	4	2	1																		5	1			1	2	1	4							3				1				2		29

Monthly Menus ★ Recipes on following page

	Wednesday	Thursday	Friday
Breakfast	**1** Cantaloupe Hot or ready to eat cereal 3-minute egg Toast	**2** Bananas–cream Hot or ready to eat cereal Crisp bacon Muffins–jam	**3** Grapefruit sections Hot or ready to eat cereal Shirred egg Toast
Dinner	Beef birds–brown gravy Maitre d'hotel potatoes Summer squash Combination vegetable salad Plum cobbler	Orange roasted shoulder of lamb Pan cooked potatoes Pimiento wax beans Cucumber wheels– sour cream dressing Sugared berries	Fillet of pike–tartar sauce Crumb potatoes Spinach a la swiss Lettuce wedge–french dressing Tri-fruit sherbet
Supper	Hot vegetable juice Chicken a la king in toast nets Frozen lima beans Cottage cheese–beet salad Fudge cookies	Bouillon Frizzled beef–corn–mushroom sauce Chantilly potatoes Tossed salad greens Tutti frutti gingerbread	Jungle soup Seafood salad Baked tomatoes Hot biscuits–jelly Lemon meringue pudding
Breakfast	**8** Grape juice Hot or ready to eat cereal Scrambled eggs Toast	**9** Cantaloupe Hot or ready to eat cereal Bacon curls Cinnamon bun	**10** Fresh plumbs Hot or ready to eat cereal 3-minute egg Toast
Dinner	★Lambstew with pinwheel biscuits Lima beans Cherry–melon ball salad Plum ice cream sundae	Cubed steak–onion ring Mashed potatoes Green beans Lettuce–pickle salad Apricot filled cookies	Broiled lake fish O'Brion potatoes Julienne carrots Shredded lettuce Blueberry cobbler
Supper	Lorraine soup Hamburger–bun Potato salad mold Pickled beets Chocolate roll–orange cream filling	Tomato juice Braised tongue–mustard sauce Watercress new potatoes Fruit slaw Emerald floating island	Hot vegetable juice Smoked salmon–lemon Potato croquettes Asparagus–egg salad Ice box pudding
Breakfast	**15** Apple sauce Hot or ready to eat cereal 3-minute egg Toast	**16** Sliced oranges Hot or ready to eat cereal Poached egg Toast	**17** Kadota figs Hot or ready to eat cereal Shirred egg Toast
Dinner	Rolled stuffed shoulder of veal Lyonnaise potatoes Harvard beets Leaf lettuce–sour cream dressing Melon ring–fruit center	Chicken salad Escalloped potatoes Corn on cob Marinated cucumbers Raspberry ice cream sundae	Perch fillet–parsley Franconia potatoes Stewed celery Mexican salad Lemon snow pudding
Supper	Fruit juice Ham loaf Potato cakes Carrot slaw Blackberry tart–whipped cream	Frankfurter casserole Tomato–pear salad Chocolate chip torte	Corn chowder Crabmeat, mornay Fritoes Green bean salad Bing cherries Macaroons
Breakfast	**22** Honey dew melon Hot or ready to eat cereal Bacon curls Pecan coffee cake	**23** Prunicot Hot or ready to eat cereal Scrambled eggs Toast	**24** Orange juice Hot or ready to eat cereal Omelet Toast
Dinner	Waikiki pork chop Mashed potatoes Asparagus tips Cinnamon apple ring salad Lemon milk sherbet	Veal birds Maitre d'hotel potatoes Stewed okra Citrus fruit salad Grape bavarian cream	Parsley salmon ring Spanish potatoes Frenched green beans Wilted lettuce Fruit jumbles
Supper	Tomato soup Cold luncheon meats Spaghetti au gratin Cabbage–pineapple salad Cabinet pudding	Corned beef pattie Creamed diced potatoes Cornbread sticks Green salad Five fruit upside–down cake	Noodle soup Stuffed tomato–cottage cheese salad Vegetable medley Graham gems–jelly Iced apricot tart
Breakfast	**29** Sliced oranges Hot or ready to eat cereal Poached egg Toast	**30** Bananas—cream Hot or ready to eat cereal Crisp bacon Twin mountain muffins–jelly	**31** Blended fruit juice Hot or ready to eat cereal 3-minute egg Toast
Dinner	Liver creole Whipped potatoes Hot slaw Pacific fruit salad Cherry filled cookies	Roast chicken–dressing Mash potatoes Creole celery Lettuce wedge–russian dressing Fresh peach ice cream sundae	Fillet of lemon sole–tarter sauce Crumb potatoes Garden peas Cole slaw Tutti frutti sponge cake
Supper	Lentil soup Hot roast beef sandwich Green bean–celery salad Graham cracker roll	Minestrone Spiced ham and vegetable omelet Fiesta salad Maple nut bread pudding	Fish chowder Tomato—cheese rarebit Hot biscuits–jam Tossed green salad Watermelon slice

. . . July 1959

Saturday	Sunday	Monday	Tuesday
4 Pineapple wedges Hot or ready to eat cereal Scrambled eggs–ham Toast ● French pot roast Browned potatoes Fruit salad Cheese–toasted crackers ● Chilled fruit juice Country fried chicken Fluffy rice Corn on cob Adirondack salad Chilled watermelon Flag cookies	**5** Sliced oranges Hot or ready to eat cereal Bacon curls Coffee cake ● Savory stuffed veal chop Whipped potatoes Frozen peas Pickles–radish buds Angel food ice cream sundae ● Consomme Turkey salad Stuffed baked potato Tomato garnish Chocolate chip spanish cream	**6** Apple juice Hot or ready to eat cereal Poached egg Raisin toast ● Liver bernaise Delmonico potatoes Braised celery Carrot slaw Fruit au gratin ● Cream of spinach soup Toasted bacon–cheese sandwich Sunburst salad Crumb cake	**7** Berries–cream Hot or ready to eat cereal Omelet Toast ● Baked ham Fried egg plant Hot rolls–preserves Assorted relishes Graham cracker torte ● Vegetable soup Jellied veal loaf Hash brown potatoes Lettuce–1000 island dressing Fresh apricots Ginger snaps
11 Grapefruit juice Hot or ready to eat cereal Baked egg Toast ● Rolled rib beef roast with Yorkshire pudding Browned potato balls Fresh spinach Peach bloom salad Gelatine cubes–whipped cream ● Julienne soup Veal turnover Potato–onion casserole Garden salad Two–tone brownies	**12** Pineapple wedges Hot or ready to eat cereal Omelet Raisin toast ● Alphabet soup Oven baked chicken Crumb noodles Creamy corn Cranberry–relish salad Peppermint stick ice cream ● Cream of asparagus soup Deviled ham–cheese sandwich Latticed potatoes Tomato salad Fresh grapes	**13** Bananas–cream Hot or ready to eat cereal Crisp bacon Almond coffee cake ● Broiled beef–horseradish sauce Oven browned potatoes Zucchini Tossed salad greens Cherry pan dowdy ● Vegetable soup California fruit plate–cottage cheese Boston brown bread Stuffed celery salad Crisp peanut cookies	**14** Tomato juice Hot or ready to eat cereal Scrambled eggs Toast ● Breaded lamb steak Mashed potatoes Peas in cream Lime krisp salad Devils food peach shortcake ● Bouillon Cold sliced pork Potato salad Pickles–relishes Hot rolls–jam Watermelon slice
18 Grapefruit half Hot or ready to eat cereal Scrambled eggs Toast ● Swiss steak Stuffed baked potato Frozen broccoli Fruit salad Coconut cake squares ● Vegetable soup Lamb pot pie–biscuits Chef's salad Chilled fruit cup	**19** Cantaloupe Hot or ready to eat cereal Crisp bacon Danish coffee twist ● Ham deluxe Whipped potatoes Minted peas Golden glow salad Ice cream eclair–strawberry sauce ● Chicken hamburger Julienne potatoes Olives–radish roses Fresh peach Iced cocoa	**20** Red plums Hot or ready to eat cereal Baked egg Toast ● Curried meat balls Duchess potatoes Carrots Tomato–lettuce salad Cottage pudding–lemon sauce ● Potato chowder Canadian bacon Lima bean casserole Rolls–jelly Shredded lettuce Fruit whip	**21** Fruit nectar Hot or ready to eat cereal 3-minute egg Toast ● Roast prime ribs of beef au jus Brabant potatoes Fresh spinach mounds Grapefruit–bing cherry salad Date bars ● Consomme Chili–cheese bun Potato chips Combination vegetable salad Fresh peach tart
25 Fresh berries–cream Hot or ready to eat cereal 3-minute egg Toast ● Broiled lamb chop Chantilly potatoes Summer squash Normandy salad Fruited gelatine pie–whipped cream ● Bouillon Carolina meat pie Chiffonade salad Rhubarb betty–vanilla sauce	**26** Grapefruit half Hot or ready to eat cereal Link sausage Swedish rolls ● Cherry nectar Grilled T-bone steak Mashed potatoes Baby green lima beans Vegetable jackstraws Chocolate mint parfait ● French onion soup Hot turkey biscuit sandwich Frozen fruit salad Ice box cookies	**27** Apple sauce Hot or ready to eat cereal Shirred egg Toast ● Yankee pot roast–vegetables Parslied potatoes Rosy pear salad Cornflake pudding ● Vegetable soup ★Ham roll–stuffed Asparagus on toast–cheese sauce Summer garden salad Blueberries–cream	**28** Casaba melon Hot or ready to eat cereal Scrambled eggs Toast ● Veal cutlet Whipped potatoes Diced carrots Beet relish salad Peach meringue tart ● ★Oriental beef with apples on rice Sliced tomatoes Toasted french bread Pineapple tidbits

Plentiful Foods MONTHLY LIST

Plums Ice cream Eggs

Lemons Limes Peaches

Vegetable fats and oils

Summer vegetables

Peanut butter

Selected Recipes From Preceding Menus

Lamb Stew with Pinwheel Biscuits 48 portions

Ingredients	Wt or Amt	Measure
Boned trimmed lamb shoulder, cubed	6 lb	4 qt
Sliced onions	6 oz	1½ c
Shortening	3½ oz	½ c
Salt	2 oz	¼ c
Pepper		1 tsp
Hot water		6 qt
Flour, sifted	7 oz	1¾ c
Cold water		2 c
Cooked green beans (1½ inch strips)	1½ lb	1½ qt
Cooked carrots (1½ inch strips)	2¾ lb	2¼ qt
Cooked celery (1½ inch strips)	12 oz	3 c
Cooked white onions	2½ lb	1½ qt

Brown lamb and onions in shortening; add seasonings and hot water; simmer 1½ hours or until meat is tender.

Blend flour and cold water to a smooth paste; add to lamb mixture; cook and stir until thickened.

Add drained vegetables to meat mixture; turn into baking pans.

Prepare PinWheel biscuits (see recipe); place on top of stew; bake in hot (400°) oven 18 to 20 min, or until biscuits are done.

Pinwheel Biscuits 48

Ingredients	Wt or Amt	Measure
*Ever-ready blend	3 lb	3 qt
Chopped parsley	1 oz	¾ c
Eggs		2
Milk		2½ c
Pimentos		1 c

*Ever-ready blend: weigh 10 lb (10 qt) flour, 6½ oz (1 c) baking powder and 3 oz (6 tbsp) salt into mixer bowl; mix on low speed, using flat beater for about 5 min; then cut in 3¼ lb (7½ c) shortening with pastry knife until the mixture resembles coarse meal; (can be stored 10 to 12 weeks in cans or jars with loose-fitting covers in cool dry place; makes 12 to 13 qt).

Measure 3 qt ever-ready blend into bowl; add chopped parsley; mix well.

Beat eggs slightly and combine with milk; add to dry mixture; stir until soft dough is formed.

Turn out on lightly floured board and knead lightly; divide dough in ½; roll each half into rectangle, 24 in long and ¼ in thick.

Sprinkle with chopped pimentos and roll as for jelly roll; cut in 1 inch slices.

Oriental Beef with Apples on Rice 32 portions

Ingredients	Wt or Amt	Measure
Onions, sliced	1 lb 2 oz	4½ c
Shortening	7 oz	1 c
Green peppers	2 lb 10 oz	14 medium size
Canned apple slices		1 can (No. 10)
Beef, round or chuck, trimmed and cubed	4½ lb	2 qt and 3½ c
Water		1 qt and ½ c
Worcestershire sauce		3 tbsp
Soy sauce		4½ tbsp
Salt	1 oz	2 tbsp
Pepper		1 tsp
Monosodium glutamate		1 tbsp
Cornstarch	3 oz	9 tbsp
Water, cold		1 c
Rice, uncooked	1 lb 12 oz	1 qt

Saute onions in shortening until soft.

Cut peppers into strips; add peppers to onions with apples and beef.

Combine water, Worcestershire sauce, soy sauce, salt, pepper and monosodium glutamate; pour over apple mixture; cover and simmer for 2 to 2½ hours or until meat is tender.

Combine cornstarch with cold water; stir into apple mixture; cook until thickened, stirring constantly.

Serve over hot cooked rice.

Ham Roll, Stuffed 50 servings

Ingredients	Wt or Amt	Measure
Onion	8 oz	1 c
Green pepper	2 to 3 medium	1 c
Fat	1 lb	2½ c
Celery, diced	1 lb	1 qt
Bread crumbs, soft	2¼ lb	4½ qt
Salt	1 tsp	1 tsp
Pepper	1 tsp	1 tsp
Boiled ham	4 or 5 lb	50 thin slices
Prepared mustard	1 pt	1 pt
Tomato sauce	2½ qt	2½ qt

Cook the onion and green pepper in the fat until browned; add the celery and bread crumbs; add salt and pepper; add more seasoning if necessary.

Spread the slices of ham with mustard and place a spoonful of the dressing on each; roll and skewer with wooden picks.

Place the rolls in a shallow pan, pour the tomato sauce (see recipe) over them.

Bake in moderate (350°) oven about 20 to 30 min.

Tomato Sauce 2½ qt

Ingredients	Wt or Amt	Measure
Butter	6 oz	¾ c
Flour	4 oz	1 c
Tomato juice	2 qt	2 qt
Onions, sliced	6 oz	2 small
Sugar	1 oz	2 tbsp
Salt	1 tsp	1 tsp
Pepper	¼ tsp	¼ tsp

Blend fat and flour.

Add sliced onion, sugar, salt and pepper to tomato juice; cook 10 to 15 min; strain.

Add tomato juice to fat and flour mixture; cook until thickened (about 20 min).

GOTTLIEB AND BLOETJES

Continued from page 101

The regular staff of employees processed both forms of the menu items.

As the employees prepared the menu items from fresh ingredients, the observer traced each ingredient through production, recording on a chart all processes, types of equipment and utensils used and the number of these or times each was used (*table 1*). The observer used a duplicate chart to record process, equipment and utensil data as the employees performed the finishing steps in the cafeteria kitchen on the frozen factory-prepared menu items (*table 2*). The totals of equipment and utensil usage for the 16 fresh kitchen-prepared menu items and for their counterparts, frozen factory-prepared, were then tabulated to facilitate comparison (*tables 3 and 4*).

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Part II

The material published in August will include layout plans for comparison of space needs for fresh and frozen menu items.

Part III

The final installment in September will include comparison of utensils and equipment needed in the preparation of the items studied.

Table 4. Types of Utensils and Times Used for 16 Fresh Kitchen-Prepared Menu Items Compared with the same Menu Items Frozen Factory-Prepared.

* - Stainless Steel
** - Aluminum
M. K. - Main Kitchen
P. K. - Pastry Kitchen

FRESH KITCHEN-PREPARED MENU ITEMS / UTENSILS	BAKE PANS *, 12"x20"x2"	BAKE SHEETS**, 18"x26"	BISCUIT CUTTER, 2½"	CAKE PANS **, 10"	CHOPPING BOARD, M. K.	CHOPPING BOARD, P. K.	CHOPPING BOARD, Veg. Prep.	COLANDER **, 10"	FOOD DIPPER, Mech., Size #20	GARLIC PRESS	GRATER, hand use	KNIFE, 10", M. K.	KNIFE, 10", Meat Room	KNIFE, 10", Veg. Prep.	KNIFE, 3", M. K.	KNIFE, 3", P. K.	KNIFE, 3", Veg. Prep.	LOAF PANS	MEASURES **	CUP	GALLON	QUART	SPOONS	MIXER BOWLS (fr. elec. mixers)	30 qt. - Main Kitchen	40 qt. - " "	60 qt. - Pastry Kitchen	30 qt. - " "	20 qt. - " "	12 qt. - " "	PIE PANS **, 10"	POT *, with handle, 3-qt. size	POT *, 2-qt., P. K.	REAMER, hand use	ROLLING PIN	SIEVE, Screen, 8"	SIFTER, 2-qt.	SKILLET, Iron, 12"	STIRRING SPOONS *, 15"	STIRRING PADDLE **, for S.J.K.	STOCK-POT **, 9 gal.	STOCK-POT **, 6 gal.	STOCK-POT **, 3 gal.	UTILITY PAN *, 10"x15"x2"	WIRE WHIP, Fr., light, 18"	WIRE WHIP, Fr., heavy, 18"	TOTAL
APPLE PIE																				8			2							8				16										37
BEEF PIE	4				4								4		4			1																											28
BROCCOLI, Buttered							1							1						1			1																						7
CAKE, Chocolate Fudge				16																1		1	1				1	1	1			2				1							28
CHEESE CAKE						1					1				1					1									1	3	8					1								36
CHICKEN A LA KING					6		3					2			6		3			1			6																			1	1		23
CHILI CON CARNE							1			1		3	1		1		1			2		3	4																					20
CLAM CHOWDER					2		1	1				3	1	3						1		3																			2			16
MEAT-BALLS AND SPAGHETTI		2			1		1		1			3	1		1		2			1		3	3		1																2			25
MEAT LOAF					1		1					1	1		1		1	1		1		1	1		1																			19
POTATOES AU GRATIN	4						2													5		2																			1			16
POTATOES, French Fried	1						1								1					1																								2
SPINACH, Buttered							1					1								1			1																						4
TUNAFISH PIE	4	4	1		5		2					3			1		2			3	1		3		1										1						1	1		36
TURKEY PIE	4				5		2					3			1		1			3	1		3																					30
WAFFLES																				1										1													6
TOTAL	16	6	1	16	24	1	17	1	1	1	1	25	5	4	19	1	11	8		43	6	11	30		2	1	2	2	1	3	16	1	2	1	17	1	3	3	20	3	4	2	3	1	3	4	343
FROZEN FACTORY-PREPARED MENU ITEMS																																													
APPLE PIE																																													
BEEF PIE																																													
BROCCOLI, Buttered																				1																									1
CAKE, Chocolate Fudge																																													
CHEESE CAKE																																													
CHICKEN A LA KING																																													2
CHILI CON CARNE																						1																							3
CLAM CHOWDER																																													2
MEAT-BALLS AND SPAGHETTI																				1																									2
MEAT LOAF																																													
POTATOES AU GRATIN																																													
POTATOES, French Fried																																													
SPINACH, Buttered												1								1																									3
TUNAFISH PIE																																													
TURKEY PIE																																													
WAFFLES																																													
TOTAL												1								3	1																			5		3					13

Pharmacy

Editor's Note: Mr. Mannino is a hospital pharmacist presently engaged in pharmaceutical distribution. He knows both phases well and is highly qualified to write about them. He substantiates his ideas by actual contact with hospital pharmacy through personal visits with hospital pharmacists in all sections of the country, from Texas to California to Nebraska to Minnesota to New York.

In this article Mr. Mannino deals with the life blood of hospital pharmacy—i n v e n t o r y and inventory control. He combines the proven principles of inventory control in industry to that in hospital pharmacy and the result is something all hospital pharmacists and administrators should examine carefully.

This 20 percent-80 percent concept in inventory control, as suggested by the author, is being put to test in the hospital pharmacy at Lincoln General Hospital, Lincoln, Nebraska, and in the Pharmacy Section of a later issue of HOSPITAL MANAGEMENT, the practical hospital pharmacy application of Mr. Mannino's ideas will be presented.

DFM

The Power of Inventory

by Alfred A. Mannino

■ INVENTORY CONTROL is a most powerful business tool and is not as complicated as it often appears. In spite of some 7,000 different items which a hospital pharmacist contacts regularly, there are *relatively few items* which materially effect the financial surplus of the hospital pharmacy.

As a member of the administrative staff of the hospital, it is the hospital pharmacist's responsibility to purchase with all the skill of a professional buyer. Because the hospital pharmacist accounts for approximately 30 percent of every supply dollar, it can be said that the hospital is dependent upon the skill and knowledge of the hospital pharmacist for its very existence.

Hospitals Are A Major Industry

Hospitals are among the nation's leading industries and will at some time effect every man, woman and child. The hospital industry is increasing at the rate of 12 percent per year, and today it is the fifth largest industry in America, employing more people than do the steel or automobile industries. In 1947 the total sales to hospitals were $1.9 billion and in 1958 over $6 billion.

In 1929 the hospitals of America purchased $7,900,000 worth of pharmaceuticals, and in 1958 $250,000,000 worth. This is an increase of over 850 percent, in less than 30 years. Even though this staggering percentage increase is startling in itself, the most significant factor is that in 1929 the $7,900,000 represented only 4.4 percent of the total ethical pharmaceuticals produced in America, while in 1958 the $350,000,000 represented 26 percent. Last year 7,000 hospitals were responsible for purchasing 26 percent of the total ethical pharmaceuticals produced, while approximately 55,000 drug stores accounted for the remaining 74 percent.

Every hospital pharmacist has noticed an increase in the number of detail men and salesmen that visit him regularly and there are days when he can count as many as 15 and 20.

With drug marketing becoming more and more complex, many hospitals are to be highly complimented for carefully investigating all types of distribution. Direct and indirect buying each has its advocates as well as its advantages. The hospital pharmacist alone can determine the best method for his hospital.

One of the most serious problems is the increasing number of new and nonstandard items. New items, new sizes and duplications have become costly factors in the efficient operation of hospital pharmacies. In order to off-set this expensive trend, many have attempted in some way to standardize the items that come into their hospitals by the use of generic names. Another way that standardization can be furthered is through the principles of scientific inventory mangment.

Financial Surplus

There are two major methods by which the hospital pharmacy can produce surplus—(1) margin and (2) proper management of inventory.

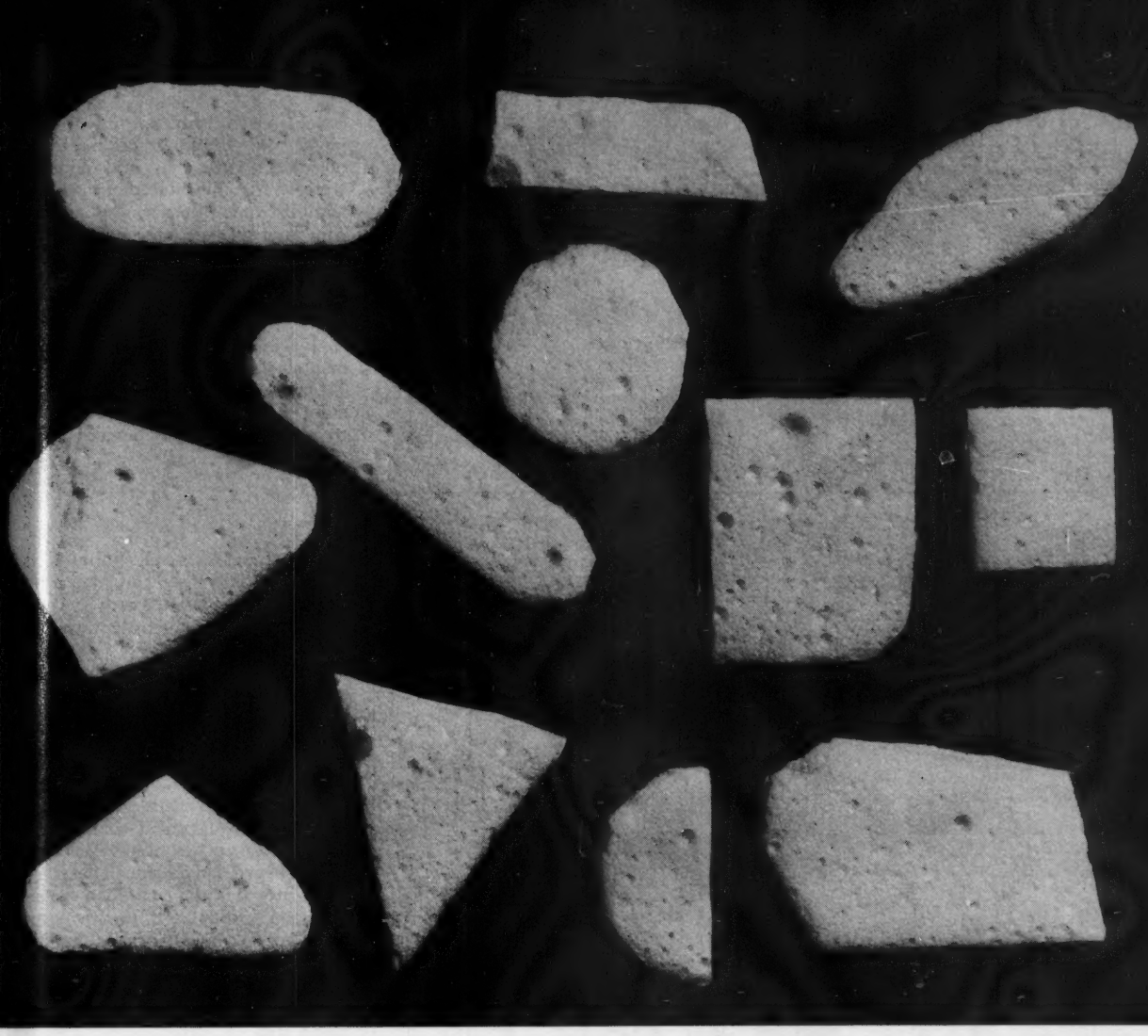
Margin is often guided by the pricing practices in the surrounding area, and generally by purchasing discretion.

Inventory mangment, however, can be the biggest single contribution to a successful business operation, whether it is in hospital or retail pharmacy.

Volume, a third factor, is of great value in retail pharmacy but of lesser importance in the hospital because it has its plateau which is determined to a great extent by bed capacity and by the size and nature of the medical staff.

The basic problem of inventory management is in maintaining the right amount of stock on hand. Fundamentally, inventory control is in deciding how much to buy and when. It is commonplace for hospital pharmacists to be surrounded with problems of space requirements; too much capital investment; too little stock; short shelf life items; demand; too much stock. In inventory management, caution in purchasing drugs is a most valuable asset. Any hospital, through a cau-

Mr. Mannino, a former hospital pharmacist, is Sales Manager, Hospital Department, McKesson & Robbins, Inc.



Are you getting the most out of your Gelfoam*?

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- to stop epistaxis
- to support tissue flaps
- to patch small air leaks in reinflated lungs
- to reinforce suture lines
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- to facilitate closure and healing of large kidney wounds
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Table 1. The Value of Orders Determines Total Costs

Value of order	No. orders per year	Procurement costs	AVERAGE active inventory	Carrying costs	TOTAL cost
$1200	1	$ 4	$600	$60	$64
600	2	8	300	30	38
400	3	12	200	20	32
300	4	16	150	15	31*
240	5	20	120	12	32
200	6	24	100	10	34

*Least total cost

tious scientific inventory management plan, can establish the right re-order point and the proper quantity to purchase. The scientific inventory control system, discussed in this article, is designed to supplement, not replace present systems.

The intent is not to be considered conclusive in itself, but only to challenge the thinking of intelligent hospital pharmacists and administrators. If a hospital pharmacist or administrator sees something that can improve his pharmacy operation, he should *try it!* The best of any system will work, only if it is allowed to work. Inventory represents money and every item on the shelf represents an investment of capital. The cost of carrying inventory investment has been calculated by many industrial concerns to range from 10-30 percent of the inventory.

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Total Costs

Two things determine total costs: Procurement costs and carrying costs. Procurement costs may be reduced for any given item by placing fewer and larger orders. However, the result is an increase in inventory and, c o n s e q u e n t l y, an increase in carrying costs. On the other hand, carrying costs may be reduced for any given item by placing smaller orders. However, the result will be an increase in the number of orders and consequently an increase in the first set of costs, the procurement costs! There is a point at which the combined costs of procuring and carrying inventory cross paths, and a desirable balance is reached.

To find this balance first calculate the costs involved in each. Procurement cost (or ordering cost) is determined by a careful time and motion study of the following elements:

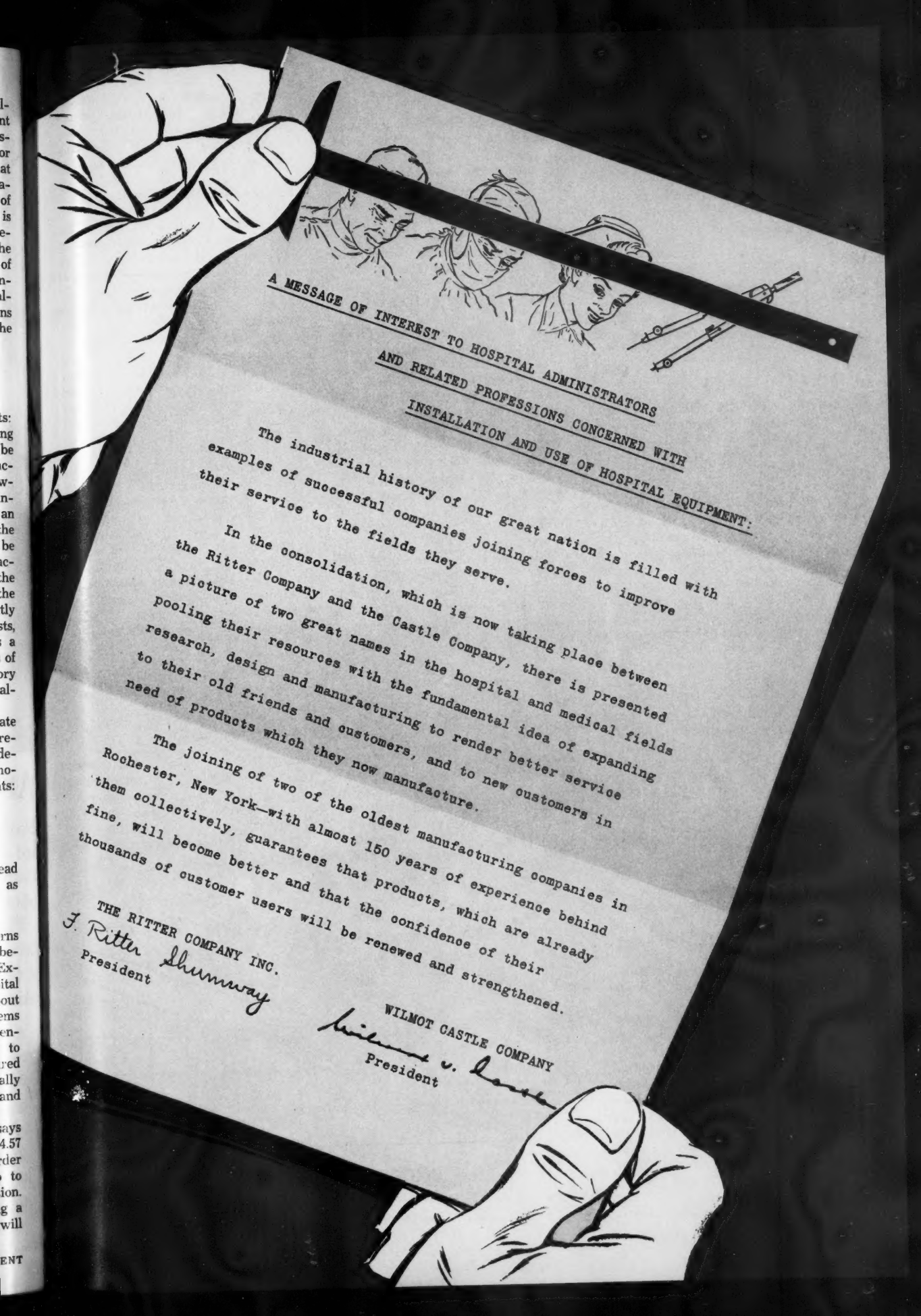
1. Stock inspection
2. Purchase actions
3. Stock receipt
4. Stock replenishment

(Example: six trips to shelf instead of one, if ordered six times as much)

5. Paying for stock

Many industrial drug concerns calculate ordering costs to be between 35 to 65 cents per item. Experience indicates that in hospital pharmacy ordering costs are about 50 cents per item. Larger items (equipment purchases) will generally cost between $3 and $4 to order, because more time is required in selecting equipment and usually there is more correspondence and more phone calls.

The general accounting office says it costs the U. S. Government $14.57 to process a single purchase order as there are 21 forms that go to make up a purchase transaction. Although the cost of processing a purchase order in your hospital will



A MESSAGE OF INTEREST TO HOSPITAL ADMINISTRATORS
AND RELATED PROFESSIONS CONCERNED WITH
INSTALLATION AND USE OF HOSPITAL EQUIPMENT:

The industrial history of our great nation is filled with examples of successful companies joining forces to improve their service to the fields they serve.

In the consolidation, which is now taking place between the Ritter Company and the Castle Company, there is presented a picture of two great names in the hospital and medical fields pooling their resources with the fundamental idea of expanding research, design and manufacturing to render better service to their old friends and customers, and to new customers in need of products which they now manufacture.

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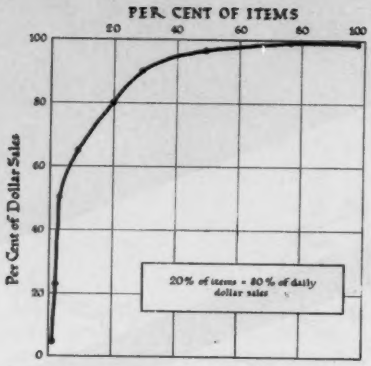

Figure 1. A relatively small number of inventory items account for a large majority of dollar income.

not run $14.57, there is a significant cost attached to each purchase action.

Carrying Costs

The cost of carrying inventory is calculated by many industrial firms at between 10 to 30 percent of inventory. On a $600 order value, such as broad-spectrum antibiotics, the cost of carrying this item *(table 1)* is $30 (10 percent of the average inventory of $300).

In order to calculate the carrying costs for a hospital pharmacy a careful review of the following items must be made.

1. Storage—only if space is essential and could be used for some other purpose more profitable to the institution.

2. Interest—if money is borrowed to pay for merchandise.

3. Loss due to theft, damage and deterioration—may be a result of overstocks.

Ralph Clark, Dean of the Pharmacy College at the University of Oklahoma says, "Volume purchase which cannot be disposed of in one to three months is not a wise purchase no matter what discount enticed the hospital pharmacist to over buy."

4. Risk of obsolescence. Screening and selecting only those products which are produced by reputable manufacturers will insure reliable merchandise and reduce the need to carry nonstandard items. Dr. Don Francke, a pioneer in the field of hospital pharmacy, says: "Buy drugs from sources of unquestionable integrity—who develop new drugs through research—who champion professional pharmacy aims." And as Dr. Francke also says: "Brand names carry the integrity of the supplier."

5. Risk of price decline. If you buy from reliable sources, this is a reduced risk.

6. Opportunity cost. In industry it is one of the most important factors in calculating carrying costs. Opportunity costs mean: If you did not have your money tied up in inventory, what could you do with it to make money for your hospital? Could it be used to pay other bills and take advantage of cash discounts? Could it be used to reduce hospital debts and save interests? Could it be used to buy stocks or bonds and make money? All of these are important considerations.

Careful studies reveal that 20 percent of the items account for approximately 80 percent of the daily dollar sales *(figure 1)*. It is necessary, therefore, to keep a sharp eye on the movement of this 20 percent group. It is important to maintain minimum inventories on these items to get as many stock turns as possible.

Turnover

Turnover is the number of times pharmacy stock turns during a 12-month period. Turnover is callated on the basis of cost of sales divided by cost of inventory.

$$\frac{\text{cost of sales}}{\text{cost of inventory}} = \frac{(\$200{,}000)}{(\$\ 50{,}000)} \text{ equals 4 turns}$$

$$\frac{\text{cost of sales}}{\text{desired stock turn (5)}} = \frac{(\$700{,}000)}{5} \text{ equals \$40,000 (inventory standard)}$$

Dr. George Archambault, Director of Pharmacy Service for the U. S. Public Health Service says: "Pharmacy drug stock turnover should be 4½ to 5½ turns per year." To do this "It will be necessary to turn fast-moving, high-volume items in excess of the pharmacy drug stock turnover average in order to compensate for the slow-moving items that may turn only two or three times per year."

Economic Purchase Quantity

Economic purchase quantity is the level at which the combined costs of procuring and carrying inventory are at a common point. The size of the order which produces this result is known as the "economic order quantity" *(figure 2)*.

Having determined a definite "procurement cost" and "carrying cost" for your hospital, it is now time to apply these costs to a chart to determine the economic purchase quantity. How many times a year should you purchase a relatively staple drug item? It is impracticable to figure the economic purchase quantity for every item in the pharmacy each time a purchase transaction takes place. It is practicable, however, to set up a classification chart by dollar sales. Then it is only a matter of routine to apply the sales movement to the classification chart to determine the most economic number of orders to place each year. If the monthly sales (at cost) are under $7 (at cost), purchase this item every three months; $7 to $60 (at cost), purchase monthly; $60 and over (at cost), twice a month.

Once a classification chart has

Please turn to page 126

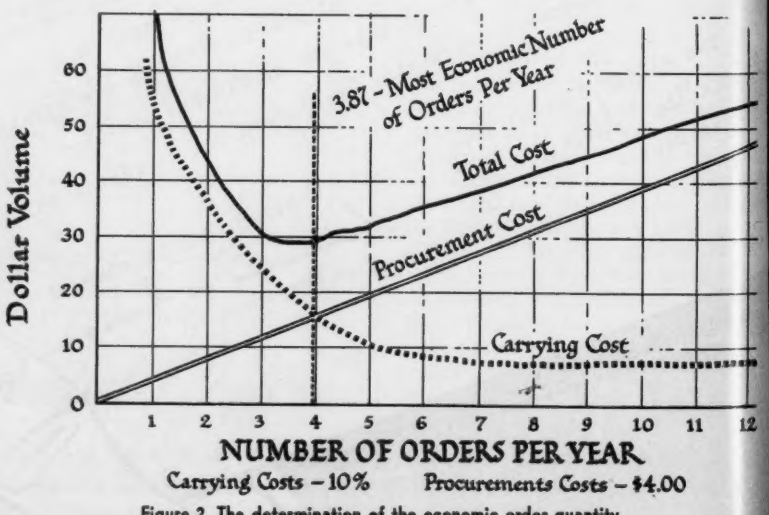

Figure 2. The determination of the economic order quantity.

NATIONAL ASSOCIATION OF HOSPITAL PURCHASING AGENTS

Mrs. Orpha Daly Mohr
Secretary-treasurer
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Chicago Wesley Memorial Hospital
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by Harvey Bennett

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Value Analysis-

Its Purpose and Application in Hospital Purchasing

With this added tool for better purchasing we find ourselves asking pertinent questions when making a routine purchase.

1. Does its use contribute value?
2. Does the hospital need all of the advertised features of the product?
3. Have I considered all the products available?
4. Can the hospital manufacture it for less?
5. Can I buy or lease to an advantage?
6. Will another dependable supplier provide it for less?
7. Is anyone buying it for less?
8. Have all of the hospital personnel involved been notified as to changes in specification or the suggestion of a better product?
9. How does this product contribute to better patient care?

A thorough discussion and evaluation of value analysis would be impossible, but I hope that the few points I shall mention will fit together and that you will at least become better acquainted with the subject.

We must turn to industry for a thorough study and explanation of value analysis. They have tested it and found it to be a most valuable tool for a more methodical approach to purchasing.

A statment found in the May 1957 issue of Purchasing Magazine certainly bears repeating—"The concept of Value Analysis is so broad and so deep that it may obsolete present purchasing methods in the next decade. Purchasing agents should prepare now to meet the challenge by starting programs of their own. The going may be rough, but the pay-off will be impressive." Another purchasing agent in this issue makes the statement, "Because of Value Analysis, 1957 style purchasing will be obsolete as the buggy whip by 1967."

If such is the case with industry, it at least warrants our detailed investigation.

What is value analysis? In simple terms, value analysis is looking on the other side of the hospital's purchasing dollar.

Hospital purchasing, as it is generally understood, is the determination of three main functions, namely spec-

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Presented at Tri-State Hospital Assembly, Chicago, Illinois at the Purchasing Workshops.

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William Douglas Hall, Purchasing Agent, The Doctors Hospital, Toronto, Ontario, Canada.

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All Regional Vice Presidents are all on this committee also.

NAHPA Calendar

August 26 — NAHPA Breakfast Meeting, Belmont Plaza Hotel, New York, New York. For further information contact your regional vice president or the national secretary-treasurer.

ifications, price, and vendor. This involves a breakdown of the other important steps that are necessary in the purchase of an expendable item or a major piece of equipment.

Through the application of the principals of value analysis, we begin to delve into the grass roots of why we buy.

A practical approach to the subject, and a study of its basic principals in relation to the product we purchase, will help us do a more thorough job of laying a preliminary groundwork before the actual purchase is made. The extent to which you go into this program largely depends upon the actual value of the purchase, the urgency of it, and the number of persons involved with the products used.

Many of you may be asking yourselves, "Value Analysis, of what value is it to me and my hospital?" I would like to answer this by the following:

A hospital for many years had been using no less than 53 different sizes and lengths of hypodermic needles. After applying the very basic prinicpals of value analysis they came up with the following:

1. They reduced the number of needles from 53 to 8.

2. They settled on one brand of needle which they felt was the best.

3. The elimination of many dollars of inventory was achieved.

4. By changing the quality of the needle, they found that even though they were spending more per needle, they would spend less over a long period, by the dividends derived in their consumption.

5. They eliminated many hours of labor in the central sterile supply room, by having fewer sizes of needles to process, reducing the time involved in re-sharpening and re-beveling.

6. It is apparent as to the benefits derived by the patient.

What actually happened in this case? It involved a study of quality, vendors, and vendors services, inventory, personnel, cost in dollars and cents, and especially prominent in this case was the comfort and expense to the patient.

Similar applications of value analysis may successfully be applied to surgical dressings, printed forms, and office supplies, we can say that with any product used in a hospital, value analysis may be used to determine its true value. Mr. J. K. Fawlkes, of Value Analysis, Inc., states, "Because no product, or item within a product is obtained free of cost, every part must carry its own weight. Value analysis is a systematic approach for determining the value of every item of cost in an operation."

Stuart Heinritz, senior editor of Purchasing Magazine stated in one of it's issues, "One of the most interesting and significant recent developments in industrial selling is the adoption of value analysis techniques as a selling method.

"In selling, as in purchasing, the value theme is not new. But the systematic development and application of analytical methods to improve product values is a distinctly modern approach. With this approach, value becomes more than a theme. It becomes a fact, a policy, and a highly effective marketing tool.

"Progressive suppliers are aware of the value analysis movement in purchasing. Many have acquired an intimate knowledge of the method through participation in such analyses at the invitation of purchasing agents. Now a few have recognized the advantage of training their sales representatives in the techniques that enable them to offer exactly what the purchasing agent is seeking, maximum value."

What can this type of selling do for your job and your hospital? Purchasing agents will be getting more and better ideas relating to products and processes, and better methods of using standardized supplies and equipment. More assistance from salesmen will be available to the extent that your added bit of product know-how will help to overcome habits and negative attitudes of those who use the services you purchase.

The aggressive, alert salesman will be selling to your hospital not merely an expendable supply item or a major piece of equipment, but he will be selling function and service.

Another important goal that will be achieved is that the hospital purchasing agent will receive greater recognition from administration. Why? Because if a buyer will apply value analysis in his day-to-day purchases, administration will begin to see dollars saved. He will see lower inventories, fewer products purchased because of standardization, better products, and more cooperative department heads. He will also see happier patients, as they will receive better patient care, because of improved techniques.

A value analysis program involves and requires the full co-operation, help, and advise of every department head and floor supervisor. Then and only then will its success be better assured.

A practical approach to such a broad and detailed program may seem insurmountable but it can and has been done. When one is thoroughly "sold" on value

He talked another salesman into contributing to the hospital building fund.

analysis and its benefits, the first impression may be to put it into use in your hospital like the blast of a shotgun. All that you will accomplish will be making a lot of noise and your department heads will scatter like buck shot.

If I were to classify step number one in the introduction of a Value Analysis program in your hospital, it would be entitled "self analysis".

If you are an administrator who does his own purchasing, or a purchasing agent with sole responsibility, regardless of the size of the hospital, a review of purchasing policies and procedures is a good place to start. Test the benefits of value analysis on yourself before you launch such a program in other areas of the hospital.

Take the category of surgical dressings. Look at your record of purchases, which include vendors' names, specifications of the product, prices paid, deliveries, and other pertinent information. Does its use contribute value? Have I considered all of the products available? Will another dependable supplier provide it for less? Am I ordering in the right quantity? You will not only find yourself learning more about the products you purchase, but you will be re-assured that you are purchasing the best product for the job intended, from the best source, at the lowest price available.

When this has been accomplished, the establishment of a group of hospital department heads to review periodically the standardized products, plus the combined approval or disapproval of new ones, would certainly be in order. Such a group could function as a standards committee. It could consist of the O.R. and C.S. supervisor, representation from administration, purchasing, and nursing. A member of the medical staff would certainly add to its success.

Many times a standardization committee results from a value analysis project. Conversely, a standardization committee may well lead to the organization of a well-rounded value analysis program.

Why should it be the responsibility of the purchasing agent to initiate a value analysis program?

The purchasing agent has at his finger tips the record of vendors and their past performances, catalogs, a library of purchases and the prices paid, a record of past deliveries, of their suppliers, and an association with the various companies which will get the right man out to the administrator, engineer, O.R. supervisor without any loss of valuable time.

After the product is approved by the key department heads, purchasing becomes most concerned as to where the best price is obtained.

With the tools that are in the hands of every buyer, the commencement of a value analysis program and the responsibility for its success should most certainly be left in the hands of a purchasing agent or those responsible for the purchasing function.

To summarize, I would like to say this. If you are looking for a tool for control in the purchase of expendibles or capital equipment, try value analysis.

If you are seeking the most effective method to use in making the best possible use of the things you purchased yesterday, and take advantage of every possible way to make it do a better job tomorrow, value analysis is the answer.

If you summarize everything I've said, I hope you will arrive at this conclusion. If those responsible for the purchasing function will analyze their present methods of purchasing with an open mind, and try to visualize the end result of what value analysis may do for you and your hospital, and if it is applied to the degree that you can see possible in your own situation, you will surprise yourself at what you and your department can do. Your first reward will be more confident purchasing. You will also find your mental "green light" always on for new ideas and improvements.

Most rewarding will be a closer relationship with the people with which you work, and a working knowledge of the fact that you are out to give administration, the department heads and every patient, the best of everything with which to work, with the least amount of effort. Also with the goal in mind of giving the patient, through your co-workers, the best care possible for the least expenditure both to the patient and to the hospital. ■

The "Sixty-Four Dollar Question" Column

QUESTION: ***What is the source for penolized oil, 5 percent?***
ANSWER: Phenolized oil—otherwise known as Dr. Goldbacher's solution—was formerly distributed by Dittmar and Penn Corp.; but because it is now illegal to ship the oil interstate, it has been discontinued by them.

QUESTION: ***Advise name of manufacturer of multiple prong (6) needle punch for tuberculin tests.***
ANSWER: Designed by Professor Heaf, manufactured by Glaxo-Allenburys (Canada), Ltd., Bartor Rd., Toronto 15, Ontario, Canada; and distributed in the United States by Panray Corp., 266 Dean St., Englewood, N. J.

QUESTION: ***From whom is a 2 ounce bottle of autoclave ink, which is red but turns green, available?***
ANSWER: Edw. Weck & Co., Inc., 135 Johnson St., Brooklyn 1, N. Y.

QUESTION: ***Where may we obtain a Henderson infant resuscitator?***
ANSWER: Foregger International, Inc., 55 W. 42nd St., New York 36, N. Y.

QUESTION: ***Can you advise source of supply of an electric baby bunting which is used on infants during blood transfusions?***
ANSWER: Manufactured by General Electric Co. and shipped from their Asheboro, N. C., plant. Information concerning it is available from their Bridgeport, Conn., office at 1285 Boston Ave.

QUESTION: ***Who makes an agglutination pipette, 0.2 ml. cap., graduated .08, .04, .02, .01, .005?***
ANSWER: Industrial & Scientific Instrument Co., 5225 Germantown Ave., Philadelphia 44, Pa.

QUESTION: ***What is address of Keefe and Keefe Corp., which is understood to make an invalid lift?***
ANSWER: 874 Lexington Ave., New York, New York.

QUESTION: ***Who is the manufacturer of a special type heart knife with no handle and proximal end molded to fit surgeon's finger?***
ANSWER: Edw. Weck & Co., 135 Johnson St., Brooklyn 1, N. Y. Commissurotoms and valvulotoms are also manufactured by H. C. Ulrich, Ulm/Donau, Germany.

QUESTION: ***By whom is the "Boomerang" needle holder made?***
ANSWER: J. Sklar Manufacturing Co., 38-04 Woodside Ave., Long Island City 4, N. Y.; American Cystoscope Makers, Inc., 8 Pelham Parkway, Pelham Manor, N. Y.; V. Mueller & Co., 320 S. Honore St., Chicago 12, Illinois; Schuco International, Hamburg 36, Germany; Messrs. Gebruder Martin, Tuttlingen, Germany; H. C. Ulrich, Ulm/Donau, Germany; and Edwards Surgical Supplies, Ltd., 289 City Rd., London, England.

QUESTION: ***Who manufactures a bed especially designed for cardiac patients, with a place cut out for bedpan, and with other features for this type of patient?***
ANSWER: Geriatric Utility Bed Corp., Mount Vernon, N. Y. and distributed exclusively by Robert Dolins, 18 Brower Ave., Rockville Centre, N. Y.

QUESTION: ***What is the address of the Cleanser Aid Co., which makes a special cleanser for baby bottles?***
ANSWER: Klenzade Products, Inc., 251 Wheeler Ave., Beloit, Wis.

QUESTION: ***We need a five or six outlet connector to attach to a water faucet to flush out five or six pieces of tubing at same time.***
ANSWER: American Radiator & Standard Sanitary Corp., 40 W. 40th St., New York 18, N. Y.

QUESTION: ***Advise address of Armstrong-Stedman Co.***
ANSWER: Stedman Rubber Co., was absorbed by the Armstrong Cork Co. and can be addressed at Hancock St., South Braintree, Mass.

QUESTION: ***Who makes or distributes an instrument known as thrombelatograph?***
ANSWER: Distributed by Haemoscope Corp., 230 Park Ave., New York, N. Y. Made by Fritz Hellige & Co., G.m.b.H., Freiburg, Breisgau, Germany.

QUESTION: ***What is address of General Hospital Industries?***
ANSWER: Located at 203 S. Portage Path, Akron 20, Ohio.

QUESTION: ***Can you give us the address of the manufacturer of Reese or Reis, orthopedic sandals?***
ANSWER: Reece Wooden Sole Shoe Co., Columbus, Nebraska.

The following questions with answers appeared in previous issue of the A.S.T.A. Journal and appear here with additional information since received.

QUESTION: ***Who manufactures capillary tubes with 0.4mm I.D.?***
ANSWER: Clay-Adams, Inc., 141 E. 25th St., New York 10, N. Y.

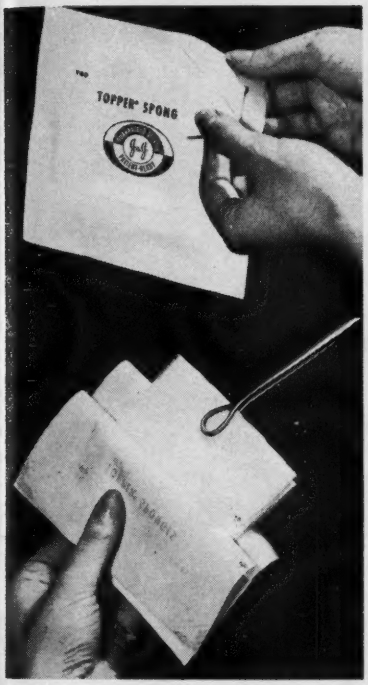
QUESTION: ***From whom can we obtain a screening type tonometer?***
ANSWER: The Lawton Co., 425 Fourth Ave., New York 16, N. Y.

Permission to reprint this Column each month for the National Association of Hospital Purchasing Agents was granted by Mr. Frank M. Rhatigan, secretary of the American Surgical Trade Association.

Sterile Packaging

by C. A. Southwick, Jr.

Packaging Engineer
Johnson & Johnson



■ THERE IS NO packaging area that has greater problems and higher standards of performance than surgical dressings for hospital and professional use. The requirements of absolute sterility imposes many problems in the selection of materials and in the package construction and durability. Yet the package must be so designed that it can be properly and easily opened by busy doctors and nurses and the product presented conveniently for use. The package cannot be resealed. All of these conditions must be met with the cost held at reasonable levels.

Packaging cost is commonly misunderstood. Many people fall into the error of comparing the cost of an unpackaged product with that of the same product in a convenient and protective package. They then say that the cost difference is excessive and individual packaging is an expensive way to deliver goods. I would like to correct this erroneous impression. In the case of surgical dressings this means that the manufacturer has placed a small number of units in a printed envelope and has sterilized this assembly. Since packaging, identification, and sterilization methods are always associated with these products the manufacturer can perform these functions at a lower cost than can be done in small lots by hospital personnel who have many more urgent demands upon their time and facilities.

The maker is a professional packager who has selected each package for its performance with a specific product. The manufacturer's efficiency and expertness is superior to that of the typical hospital employee engaged in this work. A properly packaged sterile dressing has the further virtue that it can be handled and stored for immediate and emergency use. The package allows the maker to identify and trade mark this product and so guarantee its quality and performance to the user. The trade mark of the maker on a package is like the hallmark on silver.

The latest advance in the sterile packaging scene is a non-resealable dressing package, which is not only prewrapped and presterilized, but has the added advantage that once opened, it cannot be reclosed. This allows no chance for human error to enter the picture, as was the case with the old hand-wrapped muslin or paper packages, or with the resealable type of packages. In the older type of hand-wrapped package, there was always the possibility that through accident the wrapping might be opened and unwittingly reclosed, allowing time for bacteria to enter. This new package is so sealed that when opened, the paper fibers gently tear on the edge of the package. The construction of the package permits the doctor or nurse to expose the dressing on a sterile field or to remove the dressing with a sterile procedure.

In eliminating the possibility of error in this package by what can be called "locked in security", we see a forward step in the hospital's never ending search to provide better services.

The development of this tamperproof and sterile package illustrates but one of the many striking advances achieved in the fight against infection in our hospitals. This story points out that the key to victory in the struggle lies in the coordinated efforts of today's progressive manufacturers and the hospitals of our nation. ■

The Capital City and his many friends from elsewhere paid a tremendous honor to Senator Lister Hill at a testimonial luncheon sponsored by the Washington Board of Trade, The District of Columbia Medical Society, and related organizations. The Senator, chosen as the first recipient of the "Health-U.S.A. Award," is shown during his acknowledgment to the 700 attending the luncheon at the Mayflower Hotel in Washington. On the Senator's left is Dr. Howard A. Rusk, director, New York University-Bellevue Medical Center, who presented the award; and on his right are Senator Johnson of Texas and Secretary Arthur Flemming, Department of Health, Education and Welfare.

Tou[illegible] by Johnson & Johnson pac[illegible] guarantees you that

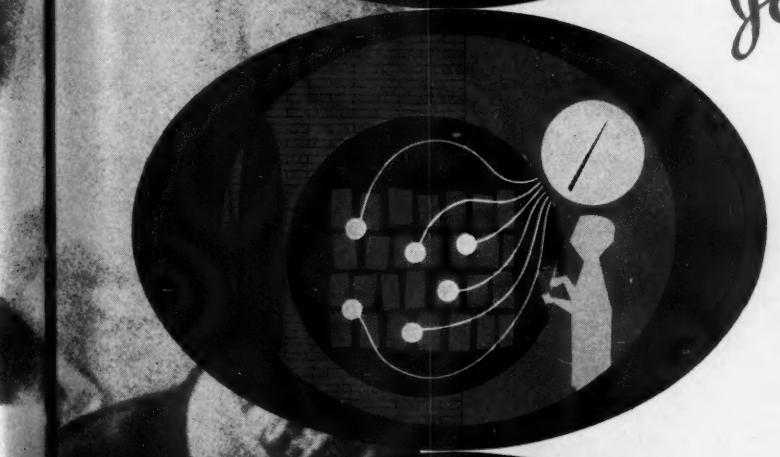
[illegible] within [illegible] been achieved through a

serie[illegible] procedures.

Packaging papers for Johnson & Johnson guaranteed sterile hospital dressings undergo a battery of exacting physical and biological tests.

Packages for Johnson & Johnson sterile hospital dressings are sealed by an exclusive research-designed process that actually welds paper together.

Johnson & Johnson



No guesswork — Johnson & Johnson autoclaves are equipped with heat recording thermocouples that test temperatures right in the autoclave — in the package — in the dressing.

A sterility test is performed on each sterilizing load. Absence of positive cultures verifies the sterility of the load.

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Job Study and Specifications

for a good Purchasing Agent

by John P. Hyden

■ BASIC NEEDS of the administrator in running a good hospital are concerned with space, equipment, supplies, and staff. All these needs involve financial management and there should be experts in these areas in order to save the hospital money. The purchasing agent is concerned with three of these needs; space for storage, the purchase of supplies and equipment. Since purchasing is a staff function, the purchasing department exercises no authority over operating personnel, but does exert line authority over employees within the department.[1]

The purchasing responsibility is sometimes defined as buying materials of the right quality, in the right quantity, at the right time, at the right price, from the right source. This is a broad generalization, indicating the scope of the purchasing function, which involves policy decisions and analyses of various alternative possibilities, prior to the act of purchase. The significance of the definition depends, of course, on the interpretation of what is right, and requires the consideration of many factors.[2]

The purchasing department in some hospitals may receive, verify, store and issue, as well as purchase, supplies and equipment. Many people in the field of purchasing recommend that the responsibility for control of storerooms should be assigned to the business department. However, I do not believe that this is the better procedure. The purchasing agent should have complete *control* over all aspects of the purchasing function from the time the item is requisitioned until the check is issued to pay for the purchase. I do not mean to imply that proper accounting control is not important but rather that the full responsibility and control should be vested in the purchasing agent. Particularly close coordination with the business department is necessary in order to maintain effective accounting auditing, budgeting controls, and to maintain working contact with storerooms.[3]

In developing a job study and specifications for a purchasing agent, the very first criteria to be determined, are the requirements of the job or specifically what the job entails. In writing this paper I shall develop the job, not based on a specific job in a particular hospital, but rather, on a hypothetical job which would reflect the ideal situation. Then the problem at hand is to develop the various elements or tasks of the job, to answer the questions how, what, and why. In developing the job study, I shall follow the functional outline below.[3]

I. Identify

Title—Purchasing agent
Department—Purchasing
Supervisor—Administrator or assistant administrator
Sex—Male or female
Shift—Not applicable
Hours—Forty hours per week
Verified by—Not applicable

II. Job description

a. Job summary

Administers and directs program to purchase supplies, equipment, and services at most favorable prices consistent with quality, quantity, and efficiency: Assists in establishing requirements for items or services to be procured, and develops standard specifications. Determines best method of purchase and directs procedures for procurement, inspection, and payment. Supervises storage, control, and issuance of materials. Maintains contacts with sources of supply, or their representatives, to keep informed of price trends, availability of supplies, new items, and reliability of suppliers. Performs related duties.[4]

b. Tasks

1. Analyzes requisitions received and decides methods of purchase. Makes certain that requisition is within authorized allowances and meets all criteria as established by standard operating procedure. Method of purchase is determined after analyzing the various possibilities and selecting the one that serves the best interests of all concerned. Frequency 20 percent.

2. Selects manufacturers or commodity suppliers. This selection is made from the purchase record card which lists previously approved satisfactory sources. Quotations may be asked from the various sources before placing of the order. Frequency three percent.

3. Signs purchase order. Checks to see that the form contains the proper and complete ordering description. This is done to make certain that the hospital is ordering *exactly* what is needed and to eliminate any possible misunderstanding between vendor and the hospital. Frequency three percent.

4. Meets with various committees to consider such procedures as standardization, specifications, value analysis, buying the right quality, and so forth. Makes necessary arrangements for meetings and agenda. The purchasing agent supplements his knowledge with that of key personnel in the hospital, thus gaining a more sound purchasing procedure. Frequency seven percent.

5. Organizes and participates in various types of inspections. These inspections might include inspecting receivables, use of equipment, storeroom supplies, records, and possibly the source of supply. This is considered to be a prudent routine precaution on the buyers part. Proper use of equipment is important in reducing need for replacements. All of these inspections help to assure the best utilization of money expended for purchases. Frequency 20 percent.

6. Supervises maintenance of perpetual inventory of materials on hand and pre-posting of all goods issued from stockroom. Spot checks inventories and inventory records, coordinates with accounting on value of storeroom supplies on hand. Frequency two percent.

7. Maintains contacts with sources of supply or their representatives, to keep informed of price trends, availability of supplies, new items and reliability of supplies. Arranges specific dates for vendor interviews. Purchasing agent must keep abreast of items above, in order to do the best job possible. Frequency 20 percent.

8. Supervise storage, control and issuance of materials. Established procedures to insure proper amount of storage and justifiable issues from the storeroom. Proper accounting of items on hand and control of issues is necessary in good purchasing techniques. Frequency two percent.

9. Investigates all long-term purchase contacts beforehand, in terms of changing needs and market trends. Must be certain that these long-term contracts serve the best interests of all concerned. Frequency, less than one percent.

10. Selects personnel assigned to purchasing, directs orientation, on-the-job training and work assignments. Evaluates performance of personnel working in the purchasing department. Insures that performance is up to the established standard. Frequency five percent.

11. Attends staff meetings and meetings with department heads and supervisors. Advises concerning contemplated purchases. Aids in working out problems that relate to purchasing which involve more than one department. Frequency 10 percent.

12. Installs and supervises maintenance of proper records. Sufficient records are kept to record all transactions, to supply the business office necessary information for accounting purposes, and for compilation of statistics. Submits reports as required. Frequency four percent.

13. Prepares and revises, when needed, a standing operating procedure for the purchasing department. This written manual may also contain written policies pertaining to purchasing. Frequency less than one percent.

14. Attends local, state and national meetings of various professional organizations to keep abreast of new and better ways for purchasing. Attending these meetings, keeps the purchasing agent alert to the possibilities of better ways to meet his problems and accomplish the purchasing function. Frequency three percent.

III. Performance requirements

1. Responsibility for quality of supplies and equipment purchased. Interpretation and application of procurement rules, regulations, and policies. Accuracy and timeliness of all transactions. Correlation of procurement program with other hospital services. Economical expenditure and proper accounting of funds.

2. Skills—Must be especially skilled in human and public relations. Must have know-how, based on experience and education, in all aspects of purchasing. Must have working knowledge of cost accounting.

3. Job knowledge—Thorough knowledge of methods and procedures for procurement of supplies; vendors' catalogs, commercial registers, directories, office files, precedent transactions, and other materials containing information relative to sources of supply; techniques used in contacts with personnel of establishments supplying requested items; and market conditions, availability of supplies, price trends, production methods, transportation means, and other pertinent developments with respect to all types of commodities. Familiarity with organization of hospital and functions of various departments. Is able to apply principles of personnel management to selection and placement of workers.

4. Mental application—Considerable judgment and initiative involved in making decisions and developing proper procedure. Must be alert to changing conditions concerning purchasing. Prolonged concentration necessary in making inspections and checking reports, etc. Must have a keen, analytical mind. Adaptability to changing conditions inside and outside the hospital are required.

5. Dexterity—Physical dexterity is not important factor.

6. Accuracy—Must be precise and make accurate inspections; must require accuracy in all purchasing functions.

7. Experience—(See Education.)

8. Education—(a) Graduation from accredited college or university, with major in business administration or allied field, plus two years' experience in an accredited hospital is preferred. Courses include bookkeeping, accounting, business arithmetic, economics, marketing, business law, and contracts. Additional training in blueprint reading and specifications, general science, and transportation is desirable; or (b) Graduation from high school, plus five years' experience in purchasing section or storeroom of an accredited hospital. Required high-school courses including blue-print reading.

9. Physical demands—Sits at desk most of working day. Reaches for, handles, and manipulates office equipment. Walks through hospital when making inspections. Makes visits to outside establishments. Works in clean, well lighted, heated and ventilated office.

10. Worker characteristics—Must have pleasing personality and be adept in human relations and public relations. Maintain good working relationships among personnel of purchasing section. Tact and coopperation in contacting, and dealing with personnel of other departments. May be male or female. Works under general supervision.

IV. Miscellaneous—In summarizing the purchasing agents job, the following elements of the job are very significant:

1. Be able to get maximum cooperation from department heads, supervisors, and medical staff.
2. Must establish a good relationship with suppliers.
3. Editing and verifying orders.
4. Control of requisitioning.
5. Maintain adequate records.
6. Be diplomatic in making inspections.

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[1]Job descriptions and organizational analysis for hospitals and related health services. United States Government Printing Office, Washington, 1952.

[2]Heinritz, Stuart F.: Purchasing. Prentice-Hall, Inc., Englewood Cliffs, N. J. 1958.

[3]Notes from Workshop on Job Analysis and Wage Administration. Minneapolis, Minnesota. August, 1958.

[4]MacEachern, M. T.: Hospital organization and management, third edition. Physicians Record Company, Chicago, Illinois, 1957.

■

Shopping Around

with Orpha Mohr

Textiles

Sources, Characteristics and Terminology of Fabrics

by Carl G. Jaeger

Figure A. Sources and Characteristics of Fibers.

Fiber Group	Trade Name	Major Producers	Special Characteristics
Acetate Cellulosic	Celanese Celaperm* Avisco acetate Estron Chromspun* Du Pont acetate	Celanese Corp. of America American Viscose Corp. Eastman Chemical Products, Inc. E. I. du Pont de Nemours & Co.	Dyes well, has a rich hand and a good draping quality. Fabrics have a good crease retention and wear well. Low melt: must be ironed at low heat setting. Moth- and mildew-resistant.
Triacetate Cellulosic	Arnel	Celanese Corp. of America	Wrinkle-resistant and excellent draping qualities. Retains pleats and creases in high humidity and when wet. May be ironed at high temperature.
Cellulosic Rayon	Fortisan Viscose Coloray* Jetspun* Bemberg (cupra)	Celanese Corp. of America E. I. du Pont de Nemours & Co. Courtable, Inc. Enka-Industrial Rayon American Bemberg	Most widely used man-made fiber. Outstanding versatility and adaptability. Excellent affinity for dyes. Easily washable, can use iron at high temperature set. Bemberg's major use is in sheers.
Protein	Vicara	Virginia Carolina Chemical	Wool and cashmere-like feel. Resistant to acids, alkalies and insects. Resilient stable and has good draping qualities. Fine in blends.
Acrylic	Acrilan Creslan Orlon Zefran	The Chemstrand Corp. American Cyanamid E. I. du Pont de Nemours & Co. Dow Chemical Co.	Warmth without weight. High bulk. Soft hand. Rapid drying, shape retaining. Resistant to shrinkage, creasing, moths, perspiration, mildew and sunlight.
Acrylic Polyvinyl	Dynel Verel	Union Carbide Corp. Eastman Chemical Products Inc.	Soft hand, high bulk. Durable, warm and rapid drying. Holds shape when wet. Iron at low heat setting to avoid shriveling. Resistant to flame, acids, moths and mildew.
Polyamide	Nylon (type 66) Nylenka Caprolan (type 6) Rislan	E. I. du Pont de Nemours & Co. The Chemstrand Corp. American Enka Div. of Allied Chemical and Dye	High tensile strength, wet or dry. Dimensional stability, high abrasion resistance. Easy wash, little or no ironing, wrinkle-resistant, moth- and mildew-resistant. Sensitive to strong sun and hot iron temp.
Polyester Polyester Film	Dacron Mylar	E. I. du Pont de Nemours & Co.	Strength with high wrinkle-resistance, good crease retention. Easy to launder. Moth-, mildew-, sun-resistant. Mylar metallic yarns, etc.
Vinylidene-Chloride	Saran Velon	Dow Chemical Co. Firestone Plastic Co.	Resistant to flame, moth, stain and chemicals. Tough, flexible. Used for carpets, draperies, upholstery fabric.
Vinylidene-Dinitrile	Darvan	The B. F. Goodrich Co.	Very soft hand, resilient and dimensionally stable. Resistant to insects, mildew, weathering. Excellent resistance to acids and organic solvents. May be chlorine bleached. Melt burns. Used for deep pile fabrics and wool blends.
Glass	Fiberglas Vitron	Owens-Corning Fiberglas Corp. Lof Glass Fibers	Moth-, mildew-resistant. Nonabsorbent. Easy to clean. Non-flammable. Dimensionally stable. Resistant to sunlight.

*(Solution dyed)

■ TEXTILE PERTAINS to weaving or to woven fabrics. Before the war, a textile buyer's dictionary might have consisted of five words—wool, cotton, linen, silk and rayon—plus the description of a few fabric weaves. Since then a whole new language of textiles has emerged.

Today, the buyer of textiles must be familiar with the names and characteristics of many different fibers, their trade name, generic names and physical properties of these new fibers in their natural state.

Following are the terms and definition for textile yarns which are used in many of the fabrics produced for institutional use.

Bulked yarns: Those that have been treated physically or chemically, so as to have a notably greater "apparent volume" of bulk sufficiently stable to withstand yarn processing tensions as well as the normal forces exerted during wear.

Bulky yarns: (A) Yarns in which the apparent density of the filaments is much lower than the real density. Examples are man made fibers which are hollow along part or all of their length and which have cross-sectional shapes of such gross irregularity that close packing

Please turn to page 124

Figure B. Terminology Of Fabrics

Baize: Long-napped fabric resembling felt; sometimes used as cover on gaming tables.

Basketweave: A fabric woven in simple under and over construction.

Block Print: Fabric printed by hand from blocks on which the design is cut.

Boucle: Fabric weave using yarns which are twisted to give a curled, nubbed appearance.

Brocade: A type of jacquard weave producing a pattern with an embossed appearance.

Brocatel: (Brocatelle): A weave similar to brocade but with the design in higher relief, giving a puffed effect. Originally silk and linen.

Canvas: Heavy closely woven fabric of cotton, flax or other sturdy fibers.

Chenille: A fluffy cord of yarn tufts, produced by weaving a blanket and cutting it into strips for use in making chenille carpets and fabrics.

Chintz: Originally plain cotton fabric with small printed designs; sometimes with glazed finish. Now also plain color fabric of characteristic plain weave.

Corduroy: Cotton fabric in a velvet weave that forms wide or narrow wales in the pile, resembling ridges.

Crash: Rough textured, coarsely woven fabric, using unevenly twisted yarns.

Cretonne: General term which applies to printed cotton or linen fabric of any weave with design larger than characteristic chintz pattern.

Damask: A taffeta weave on a satin ground, having a flat woven pattern which is reversible. May be in cotton, linen, silk or combination of fibers.

Denim: Twill weave of coarse cotton threads. Very durable.

Duck: Plain woven cotton or linen fabric of heavy weight, but lighter than canvas.

Felt: Unwoven fabric of wool, or mixed fibers, matter under pressure.

Frieze: Tightly twisted yarns, which, when woven into carpet, produce a nubby textured surface (pronounced freeze). In furniture, an ornamental band (freez).

Frise: Uncut pile fabric which may have a design created by cutting some of the loops or by skipping loops in weaving.

Heather Yarn: White, gray, brown and black yarns, mixed with one or more colors, to give a heather-like effect.

Hooked: Best known as an early American hand-made rug. Made by pulling strips of cloth or yarn through heavy backing. Now refers also to machine woven rugs of similar character. May have cut or uncut pile, or a combination of both.

Jacquard: A loom which employs a chain of perforated cardboards which serve as selectors of the various yarns.

Jute: Fiber from inner layers of bark from East Indian plant. Used for rug backings and casual rugs.

Marquisette: A sheer, lustrous fabric, used chiefly for glass curtains. May be made of many different fibers.

Matelasse: A variation of brocade but having a puffed figure or pattern in high relief.

Mohair: Yarn made from hair of the Angora goat.

Moleskin: A firmly woven twill weave, sometimes used for printed drapery fabrics. Drapes well and has soft finish.

Monk's Cloth: Heavy, loosely woven basketweave fabric, used for drapery material.

Mummy Cloth: Light-weight drapery fabric with an irregular wrap design.

Muslin: Plain, closely woven cotton fabric.

Ninon: Sheer, transparent plain woven fabric, used for glass curtains.

Organdy: Sheer plain weave of cotton, rayon or silk; usually given a finish that makes the fabric stiff or crisp.

Pick: A shot of filling yarn which interlaces with the chain warp yarns to make the weave. Quality of the weave is indicated by the number of picks to the warp.

Poplin: Finely ribbed fabric, made of mercerized yarns, silk or worsted.

Satin: Closely woven fabrics with smooth, lustrous surface and dull back. Originally silk, now made also of rayon and nylon.

Sisal: Tough vegetable fiber, used to make summer rugs. For the most part imported from West Indies and Latin America.

Tapestry: Originally referred to hand-woven wall hangings with smooth uncut pile. Now refers to similar fabric weave and carpets made on a velvet loom with characteristic uncut pile.

Toile De Jouy: Plain woven cotton, linen or fabrics, printed with all over or with spaced repeat designs, depicting landscapes or historical scenes. Named for the city of Jouy, France, where it originated.

Tweed: Fabrics woven of yarns dyed before weaving. Generally two or more colors are combined irregularly in a homespun or herringbone effect. Originally characteristic woolen fabric, now found in cotton, synthetics and combinations.

Twill: Fabric with diagonal lines or ribs produced by twill weave.

Velvet: In fabric, a pile weave which may have cut (cut velvet) or uncut loops (pile velvet). There are many variations of this general type of fabric. Has close cut pile and is most used for plain color broadloom carpeting.

Warp: In weaving, the threads or yarns which run lengthwise of the loom and are crossed by the woof or weft.

Yarn-Dyed: Yarn or thread dyed before being woven.

is impossible. (B) Spun yarns made from staple fibers having a high degree of resiliency. Such fibers resist the twist imposed upon them during processing and so produce a voluminous yarn.

Stretch yarns: Yarns made from thermoplastic fibers are usually in the form of continuous filaments which are capable of a pronounced degree of stretch and rapid recovery. I wish to submit a brief reference chart for current fibers, their sources and characteristics. See figure A.

Specifications should be set up which will act as a guide for the purchasing agent, when they are buying fabrics.[1]

First of all, there is no 100 percent guarantee on fabrics. How, then, can the buyer take the guesswork out of purchasing fabrics? Each year they purchase thousands of dollars worth of bed pads, sheets, pillow cases, drapery and many more similar items.

I don't think there is any simple solution to this problem because manufacturers have no control over the way in which their fabrics are going to be used.

There are certain guarantees such as the minimum percentage of shrinkage or the colorfastness of the fabric. This does not apply to all fabrics. If too high a standard were set, it would be impossible to receive bids from the manufacturer.

Drapery fabrics are not selected because they are practical, but because of their decorative pattern. This raises a question in my mind which I am unable to answer; however it is a problem which faces many institutions.

Selecting drapery is one of the most difficult tasks. First because of asethetics, it must look attractive when hung, its pattern must blend with the room's overall design.

The purchasing agent should ask himself the following questions when buying drapery. How will the fabric wear? Will it hold its color? Will it stretch or shrink? Will it resist mildew and abrasions? However, one of the most important questions is, what will it cost for maintenance? Even though the purchasing agent has determined that the fabric selected for use will best meet all of the requirements, he may be required to purchase other material because of external pressure by outside sources.

George D. Cole, pastry chef at the Malden (Mass.) Hospital created this tallow replica of the Mount Rushmore National Shrine for the culinary exhibit of the Boston Hotel and Restaurant Show. It won the highly coveted "Felicitations of the Jury" award.

Sheets

How to select and judge them is best solved by each individual institution. There are two very important factors. One is its budget and the other its own particular need. There are many helpful guides to be used for determining the different grades of cotton, thread count, weave, length, shrinkage, sizing, breaking strength, weight, appearance, selvage, smoothness, bleaching, singeing, stitching and price. As you can see there are many factors that affect the suitability of sheets and each institution must take into consideration these factors when making a purchase.[2]

Each institution should set up tests to determine the wearing qualities of its sheeting. Some institutions do this by dating their linens, others do this by taking a group of sheets and keep an actual check on the number of washings per sheet. This enables them to determine the life of the sheet.

Another important item is the thread count. This is the number of threads per square inch. There should be the same number of threads lengthwise as there are crosswise.

There are four different types of muslin sheets, each one having a different thread count. Backfilled muslin which has fewer than 112 threads and lightweight which has not less than 112 threads per square inch; medium-weight which has not less than 128 threads per square inch, and heavy-weight muslin which has not less than 140 threads per square inch. The cost and durability of the sheet are based on the thread count. The one most commonly used is the medium-weight muslin.

Percale sheets, which have a much higher thread count per square inch, come in two types—180 threads per square inch and not less than 200 threads per square inch.

The thread used in percale sheets are much finer than those used in muslin. The sheets are also lighter in weight, smoother in texture and have a finer appearance; however they do not stand up under rough handling as well as heavy muslin.

In successful sheet buying, the following seven points are important to remember: Suitability, wear, appearance, comfort launderability, size and price.

I shall touch briefly on the description and use of the natural fabrics. This is not an attempt to list them all, only the fabrics that are most common. See figure B.

In conclusion, I should like to state that sound textile buying requires the purchasing agent to exercise the greatest skill in the selection of material which will deliver the greatest amount of service per dollar expended.

References:
[1]Cochran, F. L., et al: Better textile buying. Institutions, Chicago 44:160-164, 1958.
[2]Reference Library: Selecting and judging sheets, first edition. Institutions, Chicago: 18, 1958.

Continued from page 39

scription business may look very enticing. Add this thought to my first premise and we can only deduce that hospital pharmacies of the future must of necessity grow in size, personnel, inventories and workloads. This thinking ties in with the prediction of those connected with the Public Health Service's Hill-Burton Program. They believe that we shall *not* see many more hospitals in this country but our present hospitals will grow larger to accommodate the increasing population and the growing number of aged and chronic disease patients living in the areas they serve.

The Utilization of More Labor Saving Devices

Ray Brown, past president of the American Hospital Association, stated that labor costs in hospitals could be expected to increase 5 percent annually for years to come. If anything, this may be a conservative estimate. Good administration today seeks means to cut labor costs and at the same time improve patient care. As an illustration, note the growth in the use of throw-aways—such as paper medicine cups, tubing, single dose throw-away injectables, and the prepackaged supplies now on the market, such as individual packages of jelly, milk, sliced bread and such items. The efficient hospital pharmacy of the future will procure prepackaged medications and supplies directly from the manufacturer.

This evolution will cut down considerably the present processing workloads of our central supply and pharmacy departments. More and more, pharmacists will serve as drug therapy consultants to the medical, dental and nursing staffs, and less and less as the skilled technicians they once were when they hand-prepared cachets, suppositories, powders and capsules. Prefabricated medications may now run as high as approximately 3 percent in some of the American Druggist fortnightly prescription surveys.

A Comprehensive Day Rate for Hospitals

The time is close at hand when hospital administrators will reevaluate the charging systems used in our hospitals. A comprehensive day rate plan that covers x-ray, laboratory and drugs seems a logical solution to the problem if a workable formula can be devised. Hospital insurance programs, such as Blue Cross, are now studying drug costs in hospitals. Some programs are extending their drug costs coverage to include the first two weeks after the patient leaves the hospital. When I think of the professional and clerical time that is consumed to control and bill individual patients for these three services, and when I think of the interdepartmental frictions that this system fosters, I cannot help but feel that the day of the over-all cost plan will come. To illustrate my point concerning the friction germinated between departments when departmental charges to patients are employed, a pharmacist was heard to remark not so long ago that when the dollars saved by nursing through the use of the single dose throw-away injectable system were added to his budget, he would go along with the plan, but not until then. Isn't this but another instance of departmentalizing at its worst without the interest of the total hospital or the patient being considered?

For hospital pharmacy of the future, I see then—

(1) More and more physicians with private offices in hospitals, with more and more individual patient prescriptions coming to the hospital pharmacy as a result.

(2) Strong resentment of this evolution by community pharmacists. However, this resistance is to be expected in all types of changing situations—it is but natural to resist a change from old patterns.

(3) The number of our hospitals remaining fairly static, but their size growing and with that growth will come the growth of the pharmacies in these hospitals. Quite conceivably they will carry as much as 35 to 40 percent of the total domestic drug sales volume.

This means for your specialty "hospital pharmacy" the challenges of bigger pharmacies, more personnel, larger inventories and, by necessity, the introduction of many labor saving devices such as prepackaged items.

I believe that as time marches along, hospital pharmacists will find themselves concerned more and more with being *drug therapy consultants* inasmuch as their professional services will not need to be diluted with such time consuming activities as individual patient drug charge activities. The over-all day rate will eventually, I believe, be commonplace to hospital administration. ■

Classified Advertising

POSITIONS OPEN

SURGERY NURSES must be experienced. Beautiful 83 bed hospital in Los Angeles suburb. Excellent salary and working conditions. 5 day week. Administrator, SAN GABRIEL VALLEY HOSPITAL, 115 E. Broadway, San Gabriel, California.

2 STAFF DIETITIANS: Capitol City's largest and newest hospital (290 adult beds — Opened 1951). Centralized Food Service — Selective Menu. ADA preferred. No teaching required. $4,000 starting salary range — Liberal Personnel policies. Apply: Director of Dietetics, CHARLESTON MEMORIAL HOSPITAL, 3200 Noyes Ave., Charleston 4, West Virginia.

DIETITIANS to work for food service company with operations in principal West Coast cities and Denver. Formal 10-week training program followed by assignment involving full range of management activities. Excellent opportunity for development and advancement. Salary open. Reply to: Food Service Management Division, MANNING's, INC., 901 Battery St., San Francisco, Calif.

ADMINISTRATOR ASSISTANT or Business Manager with opportunity for promotion, 50 bed General Hospital near North Chicago area. M.S.H.A. or equivalent qualifications necessary—none other considered. Salary commensurate with ability or experience. A. FINKEL, 5062 N. Sheriden, Chicago, Illinois.

DIETITIAN, ADA member, Therapeutic or Administrative, for 350 bed hospital in western suburb 16 miles west of Chicago's loop. Well equipped Dietary Department. Regular hours. 1 month's vacation and other liberal benefits. Salary commensurate with ability. Apply: Miss M.L. Schoeneich, Chief Dietitian, MEMORIAL HOSPITAL, Elmhurst, Ill.

DIETITIAN: Non A.D.A. 10 yrs. hsp, exp; adm, therapeutic. Prefer small hospital. ADDRESS H—16, HOSPITAL MANAGEMENT.

PHYSICIAN, Foreign Graduate, working toward MHA degree, desires position as Assist. Administrator or as Administrator. ADDRESS H—15, HOSPITAL MANAGEMENT.

OPENING FOR ASSISTANT DIRECTOR Medical Records Department. Must be registered or eligible for registration. Modern Department. Patient Activity Study. 514 bed hospital. Good salary and personnel policies. Write: Mr. J. M. Dunlop, Administrator, BRIDGEPORT HOSPITAL, Bridgeport, Conn.

IMMEDIATE NEED OF NURSE-ANESTHETIST. 185 bed general hospital, college town. 20,000 population, recreational area. $600. a month. Contact H. B. Lehwald, Adm., ST LUKE'S HOSPITAL, Marquette, Michigan.

(See Also Page 130)

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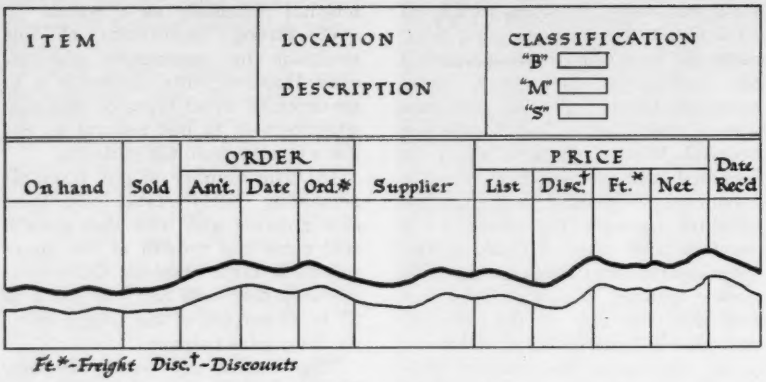


Figure 3. Stock record card

been set up it is an easy task to apply monthly sales against the chart and come up with the economic order quantity. If stock cards are kept, a space should be provided at the upper right-hand corner of the stock card to show frequency of count. For convenience the following abbreviations may be used.

"B"—every three months
"M"—monthly
"S"—semi-monthly

Stock Record Cards

Stock cards, of course, are a valuable guide for many business duties in the hospital pharmacy and must be complete. It is necessary for a buyer to have full knowledge of the movements of drug items in order to exercise sound judgment in ordering merchandise. The stock record card *(figure 3)* should show the following:

1. Item. Each item should be clearly identified.
2. Size Description. The size of the unit should be the same as it appears on the package. If two size designations appear on the package, show both. This will aid the stock count clerk. Example: Chemicals, pints and pounds.
3. Location. Shelf or drawer location may be shown on the stock record card for convenience as desired. This will be a valuable source of information in locating items.
4. Unit of Quantity. A standard unit of quantity for uniform use in recording is desireable.
5. The Name of the Supplier.
6. Costs. The stock record card should also serve as a cost record and show list price to hospital, cash discount, and net cost. Remember, all inventories and turnover are based on costs.
7. Date of order.
8. Date Merchandise Received. The date of invoice should not be shown, but rather actual date of receipt.
9. Quantity of Merchandise on Hand. The stock record card can provide a space for store room as well as active pharmacy stocks on hand, if desired.
10. Quantity Ordered: A red pencil or pen can be used to indicate quantities to be ordered. It is a good practice to use a red "O" when no order is indicated.
11. Price. Include discounts, freight and list prices, as well as net prices.
12. Sales. Sales may be recorded in the space marked "Sold" or "Dispensed." This is valuable information to give the buyer a picture of stock movement. This is not a daily entry but the difference between what was on hand at the last count plus merchandise received and what is on hand at the present count. Stock record cards should be filed in a fire-resistant container and in a location readily accessible to those interested. They should be filed alphabetically for ease in locating items. Some type of tub or roller file is desirable.

Control of Stock Cards

In most cases the stock record cards will be the responsibility of the pharmacy department. Whenever cards are removed from the file for any length of time a record on a check list should be kept to show that the cards were removed, by whom, and when they are returned to the file. ■

Continued from page 49

tending over a total of 22 months. This requires that the student spend half-time at the College of Pharmacy for two academic years and that he schedule not more than 28 hours weekly as a Resident in Pharmacy at the Veterans Administration Hospital. For the residency service remuneration is at the rate of $2.40 per hour. His income approximates $3,500 for a 12-month period. The resident may reside in quarters furnished at the hospital for about $16.00 weekly, including board and room. Veterans Administration residents may purchase low cost group life insurance up to the amount of their annual salary. Residents successfully completing the Veterans Administration program obtain competitive Civil Service status and will be considered for higher grade positions in the Veterans Administration Hospitals and Outpatient Clinics.

C. For a person properly qualified by practical experience or internship in hospital pharmacy, it is possible to enroll in the academic portion of this Program in Hospital Pharmacy Administration to receive the Master of Science in Pharmacy degree.

D. For a person properly qualified educationally, it is possible to enroll in the one-year residency phase of the Program in Hospital Pharmacy Administration as offered at Jefferson, thus serving a 12-month period as Resident in Pharmacy (June thru May) and receiving the Certificate of Service as a Resident in Pharmacy. During this period, he will receive a total stipend of approximately $4,400, as outlined in "A" above under the residency phase.

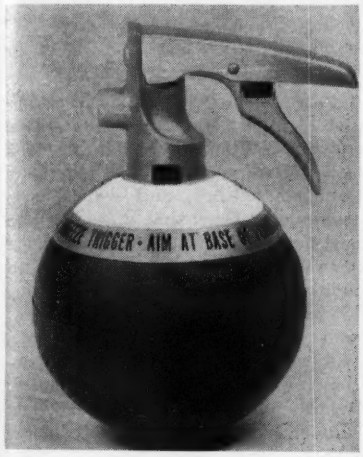
The residencies in both hospitals encompass a minimum of 1920 hours of service and usually more. The Resident in Pharmacy will be subject to the same regulations for conduct in the hospital as are established by the administration for intern and resident staff on other hospital services.

Herbert L. Flack, M. Sc., Director of Pharmacy Service at Jefferson Medical College Hospital, is over-all coordinator of the Program in Hospital Pharmacy Administration, assisted by Herbert S. Carlin, M.Sc. Basil P. Ketcham, M.Sc., is Director of Pharmacy Service at the Veterans Administration Hospital of Philadelphia. ■

Product News and Literature

701 — Fire Fighting Monitor

■ THE MONITOR has a spherical design and one-hand operation. Cartridges can be replaced after use. Recharge is filled, pressurized and sealed during manufacture. Approved by Underwriters' Laboratories. No pressure gauge is required, user can tell proper charge of gas by weighing. Cartridge remains fully charged indefinitely — if it has never been punctured. The hanging bracket also serves as a locking device to avoid accidental discharge. When removed from bracket it's all set to use.



702 — Dish and Tray Handling Unit

■ A MOTOR DRIVEN belt unit for easy and rapid handling of dishes and trays. The nylon belt is self-tensioning. The belt links are self-tracking, requiring no adjustments. The nylon sections are rigid, shock resistant and cannot unravel or shred. The units are available in many combinations of beds, and closures, cabinets and skirtings, making it possible to select a complete custom unit assembly from the manufacturer's printed catalog sheets. The unit is furnished complete and installed by the same manufacturer without necessitating the purchase of additional equipment or parts.

703 — Reference Chart

■ A CONVENIENT BILLFOLD size electrolyte solutions chart, unfolds into a reference table, listing names of the solutions, their milequivalent values, major therapeutic values, popular uses and the institution or doctor credited with originating the approximate electrolyte values used. The charts have been prepared for the convenience of physicians, residents, interns and nurses. Available on request.

704 — Drinking Tubes

■ A PERMANENT drinking tube which can be sterilized, at a new, lower price. Patients can use the same tube throughout their entire stay. The rigid, heavy-gage tubes can not collapse, and will not soften when immersed for long periods in warm or cold liquids.

705 — Leather Ankle Cuff

■ THIS CUFF is for assistive or resistive exercises where it is necessary to apply weight directly to the ankle. Constructed of soft, top-quality leather and features 5 D rings to permit a pull in any direction. Adjustable straps assure a firm, secure fit on ankles of any size. Priced at $6.75 each. Available in two sizes.

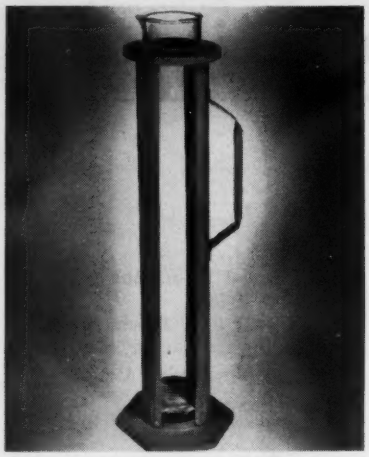
706 — Silent Floor Machine

■ A 20-INCH floor machine with a new type gear reducer, a separate unit from the motor that assures quieter operation and simpler repair. The maintenance man can maneuver the machine with slight pressure from his fingers. The one horsepower motor rests directly over the brush with the weight assuring balance, uniform coverage and effective use of power. The safety switch instantly stops the machine once the grip on handle is released. The machine is available with interchangable accessories.

707 — Germicidal Floor Cleaner

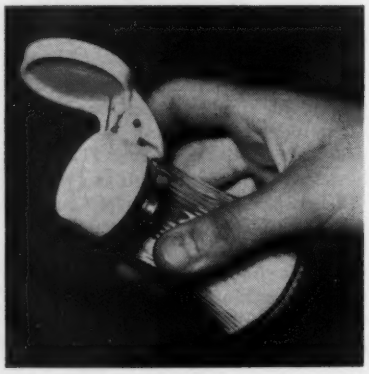
■ A FREE TRIAL OFFER of the cleaner has been offered by the manufacturer to be used for test purposes on a single operating room floor. Diluted one ounce to a gallon af water, the contents of the bottle should prove adequate for 3 to 4 daily applications, thus permitting a cumulative residue. Effectiveness may be measured by taking floor cultures before and after first application. The sample offer is made, without obligation to all accredited hospitals.

708 — Shielded Glass Cylinder



■ GRADUATED CYLINDER equipped with a metal shield and handle for protection against corrosive chemicals. The 1000 ml cylinder fits securely into the tubular steel shield. Friction-fit "0" rings hold the cylinder in place. The shield is designed with two "windows" for making accurate measurements. Developed for use in chemical and food processing operations, manufacture of drugs and in laboratories. Useful in carrying samples from bulk storage to dispensing or testing areas.

709 — Moisture-Proof Shakers



■ THESE shakers are guaranteed to keep salt absolutely dry and free running in the most humid climates. Each hole in the shaker is sealed individually by the rubber gasket in the shaker's top. The entire top is sealed when shaker is closed. Gasket may be removed, washed and replaced.

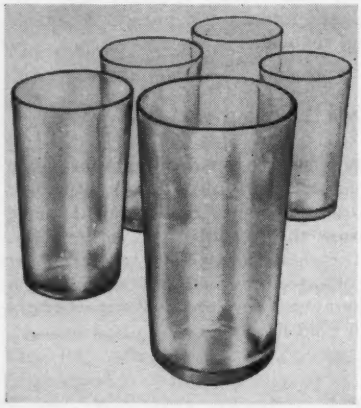
710 — Carbon Dioxide Analyzer

■ CREATED to fill the need for a simple, accurate, portable clinical instrument for determining carbon dioxide concentration in anesthetic gas mixtures. At the single push of a handle, the machine draws a 40cc sample, automatically determines its carbon dioxide content in 20 seconds, and reports the percentage accurate to within plus or minus two-tenths of one percent on an easily read needle gauge.

711 — Laundry Rinse

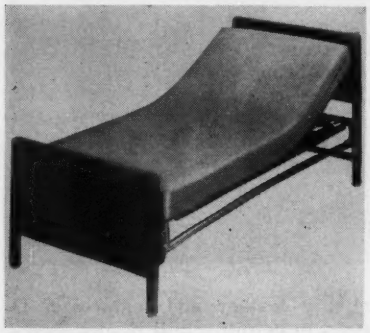
■ A LAUNDRY additive for hospital and institutional use that the manufacturer claims makes all washable items germ-proof and self-deodorizing between washings.

712 — Glassware



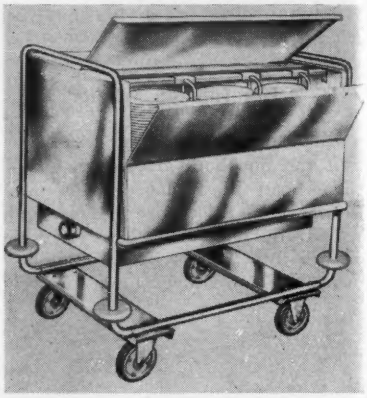
■ THIS WARE is guaranteed, virtually unbreakable in normal use. Oven-proof and freezer proof. Will not discolor. Made of solid glass, that has been fortified by a newly developed process.

713 — Steron Mattress



■ A waterproof button-free covered mattress designed for use throughout the hospital. Especially suited for use with incontinents and psychiatric patients. Covered with neoprene-coated nylon sheeting which is impervious to body fluids and wastes, does not retain odors. May be washed with soap and water or ordinary hospital disinfectant.

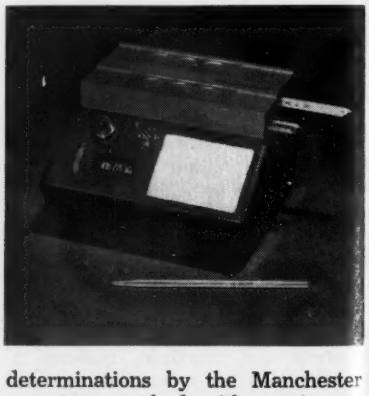
714 — Heated Carrier Dispenser



■ ELECTRICALLY heated carrier, completely encloses dishes and plate covers in stainless steel; reduces dish handling; stores as well as transports dishes; and serves as a convenient dispensing unit. Electric heating element is removable. Unit has two ball-bearing swivel and two rigid super-duty casters for loads to 700 pounds, with 5 inch metal wheels with ball-bearing axels and soft, rubber tread tires. Capacity is 270-9 inch plates or 360-7 inch plates. Overall dimensions are 37 inches long, 26 inches wide and 36½ inches high.

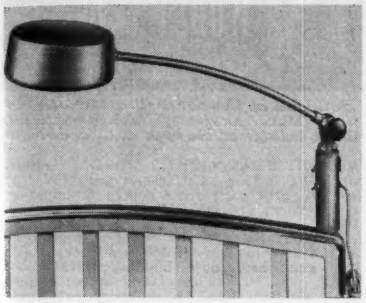
715 — Prothrombin

■ A DEVICE to provide bedside testing facility for prothrombin-time



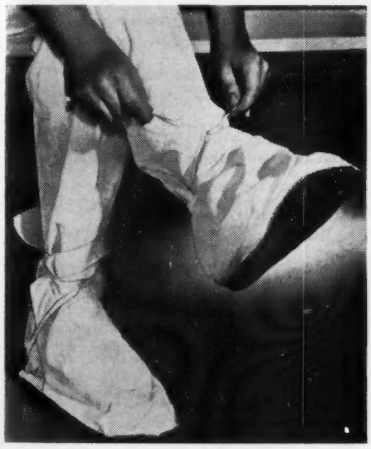
determinations by the Manchester one-stage method with continuous temperature control added. The instrument combines a thermostatically controlled slide and pipette holder with an electrical timer directly readable to 0.1 second.

716 — Detachable Bed Lamp



■ EXCLUSIVE feature of this lamp is a 7½ watt night light unit containing a convenient plug-in receptacle. The lamp fits into overbed frame sockets and also optional mounting brackets which adapt it to any style bed. Its 28 inch horizontal reach and its adjustability make it ideal for reading, and for examining patients. The 8 inch ventilated reflector rotates a complete 360 degrees around a stationary socket.

717 — Disposable Overshoe



■ A LOW COST, paper shoe cover designed for one-time use in surgery or highly infectious areas, prevent carrying contagion throughout hospital. When used in surgery or other uncontaminated places, the product may be autoclaved and reused. Made of paper with conductive rubber soles and tab to place under foot inside regular street shoes so static electricity is grounded. Secured around ankles by plastic ties.

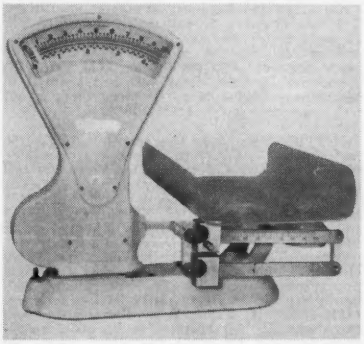
718 — Silicone Skin Spray

■ SPRAY found effective as an aid in preventing bed sores in bedfast patients, and in checking or even eliminating skin irritations in cases where they have already developed. Active ingredients are silicone and hexachlorophene.

719 — Aerated Mattress Pad

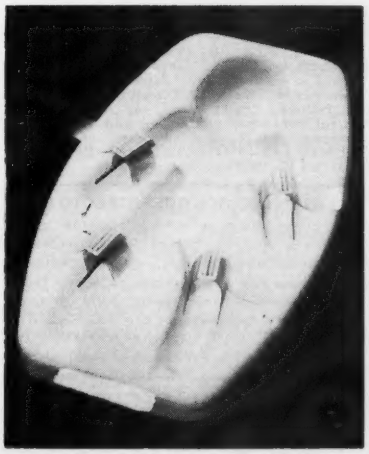
■ THIS BEDDING allows user to dial the climate desired in his own bed regardless of the temperature of the room in which he sleeps. The pad can be steam sterilized after each use. The unit consists of four components: a small blower-fan, placed near floor level, which activates the air; A bedside control; a 3-dimensional molded rubber pad atop the mattress—this functions as the air chamber; a fitted mattress pad filled with acetate. The batting diffuses the air throughout the bed.

720 — Baby Weighing Scale



■ THE SCALE, features a combination avoirdupois and metric equivelent chart. Avoirdupois weights are to 10 pounds in one ounce graduations. Metric equivelents are to four and one-half kilograms by 20 gram graduations. A 10 pound by 1 ounce tare beam is provided to offset the weight of blankets or other protective covering. The scale is equipped with an acrylic plastic platter with four inch high side guards and is finished in white baked enamel.

721 — Circumstraint



■ A DEVICE for immobilizing infants during circumcisions, transfusions, x-rays and other procedures. Molded of high-impact, non-porous plastic. Has four adjustable plastic straps which are quickly and easily fastened over infants' limbs providing positive restraint of infants from 4½ to 16 pounds. The raised platform between the legs provides a rest for instruments. The surface can be wiped clean with ordinary disinfectants, maintaining asepsis in the nursery.

722 — Portable Food Carrier

■ MADE of stainless steel, vacuum insulated has matching 4 pan inset assembly also made of stainless steel. These models were designed and engineered to meet the sanitary construction requirements of the U.S. Public Health Service Ordinances and Codes.

723 — Waste Mobile

■ A MAINTENANCE aid in collecting waste, available in an all chrome frame. The frame is designed to accommodate a six-bushel bag. Other innovations — a welded 10-gauge vinyl plastic bag suited for wet waste; self-locking steel brackets to prevent frame collapse during use; nylon washers at pivot points for extended trouble free operation; and six 2-way hooks to support both the bag and cleaning tools.

724 — Oxygen Therapy Catheters

■ THE CATHETERS are made in two styles with an improved funnel end and with a nylon connector. These catheters are transparent green for easy identification and are individually packaged, ready for use.

Classified Advertising

POSITIONS OPEN

Interstate Medical Personnel Bureau
333 Bulkley Building, Cleveland, Ohio
Miss Elsie Dey, Director

BUSINESS MANAGER: 250 bed hospital, southwest. Expansion program, 1960. $8,000. (b) 100 bed hospital, mid-west. (c) 120 bed hospital, near Philadelphia. (d) Credit and Collection Managers; Ohio, Nebraska, Illinois, Pennsylvania.

ADMINISTRATOR: New Modern Hospital, east. (b) 120 bed hospital, West Virginia. (c) Assistant. 275 bed hospital, central states. (d) R.N. 40 bed hospital, Massachusetts.

PERSONNEL DIRECTOR: Experience. 350 bed hospital, Pennsylvania. (b) 200 bed hospital, Kentucky. (c) 285 bed hospital, Ohio.

DIRECTOR OF NURSING: 185 bed hospital, New England. (b) 200 bed hospital, Virginia. (c) 300 bed Ohio hospital. (d) DIRECTORS, NURSING EDUCATION. Attractive Offers.

PHARMACISTS: 100-3—bed hospitals. $7,000.

LABORATORY: X-Ray Technicians. 40 bed hospital, southwest. (b) 75 bed Michigan hospital. $6,000.

MEDICAL RECORD LIBRARIANS: $6,000.

EXECUTIVE HOUSEKEEPERS: 350 bed eastern hospital. (b) 200 bed Michigan hospital. (c) 300 bed Pennsylvania hospital.

DIRECTRESS OF NURSES — For 170 Bed Hospital; Central Pennsylvania; Salary commensurate with qualifications plus an apartment. Contact: Mr. Richard E. Cummings, Administrator, J. C. BLAIR MEMORIAL HOSPITAL, Huntingdon, Pennsylvania.

POSITIONS WANTED

ADMINISTRATOR: Master's Degree, Hospital Administration, 1954. 4 years Army Medical Service. 2 years Administrative Assistant; 3 years Administrator, 100 bed hospital, Mid-west.

ADMINISTRATIVE ASSISTANT: M.H.A. Degree. Age: 30 years. 2 years Accountant, large mid-western hospital. Served Administrative Residency, 400 bed hospital.

BUSINESS MANAGER: Age: 49 years. Advance courses Accounting Johns Hopkins University. 15 years banking experience; 15 years comptroller, 250 bed eastern hospital. Available. Any location considered.

PURCHASING AGENT: Age: 40 years; 10 years experience in industry; 7 years, Purchasing Agent, 350 bed Ohio hospital. Available.

R.N. SUPERINTENDENT: Held Administrative positions, 45-85 bed hospitals. Last position 4 years, 75 bed Pennsylvania hospital.

EXECUTIVE HOUSEKEEPER: Age: 40 years (Male) 5 years experience, progressive hospital, Mid-west.

POSITIONS OPEN

ZINSER PERSONNEL SERVICE
Anne V. Zinser, Director
Suite 1004 — 79 W. Monroe
Chicago 2, Illinois

We have splendid openings for Directors of Nurses, Instructors, Supervisors, Dietitians, Medical Technicians, Staff Nurses. If you are looking for a position, write us.

CHIEF ENGINEER—Age 30-45, college grad or equivalent in mechanical engineering with power plant, building construction, and maintenance experience. Direct and supervise 18 employees including electrician, carpenter, mechanics, painters, boiler-firemen, etc. This position has department head status in a progressive hospital in southwestern Michigan. All replies strictly confidential. Salary open. Apply by letter giving resume of experience and qualifications. ADDRESS H—13, HOSPITAL MANAGEMENT.

POSITIONS OPEN

SHAY MEDICAL AGENCY
55 East Washington Street, Suite 1935
Chicago 2, Illinois

ADMINISTRATIVE PERSONNEL: (a) Administrative Asst. Calif. 225 bed teaching hospital. Capable of serving as business manager. $7000 minimum. (HM-2848) (b) Assistant Supt. East. 250 bed hospital. To $7500. (HM-2938) (c) Administrative Assist. East. Assist Director of House Services. 375 bed hospital near Boston. (HM-2798) (d) Administrative Asst. Middle West. 250 bed hospital. (HM-3074) (e) Director of Volunteers and Public Relations. East. 500 bed hospital — near N.Y. City. Have established program. (HM-2897) (f) Assistant Administrator. South. 275 bed hospital in city of about 100,000. Good educational background plus some practical experience. (HM-2764) (g) Credit and Collection Manager. East. 300 bed hospital. (HM-3131) (h) Business Manager. Southwest. 250 bed hospital. Expansion program to add 70 beds under way. Good accountant. Annual volume of business about 2½ million and there are over 600 employes. (HM-3101) (i) Personnel Director. East. 400 bed hospital in beautiful suburban area of large city; about 600 employes. $6000. (HM-3054).

DIETITIANS: (a) Therapeutic. Calif. 250 bed hospital in San Francisco bay area. $4800. (HM-3126) (b) Chief. Middle West. 200 bed hospital. 25 employes in dept. (HM-3034) (c) Food Manager. Man Hospital experience. 375 bed hospital in city of 70,000. (HM-2814) (d) Chief. East. Present incumbent leaving for health reasons. Decentralized dietary program. They would like to centralize. $5500 plus 3 room apartment. (HM-2958) (e) Food Supervisor. College. South. Serve about 1200-family style. Require quantity food experience. (HM-3006) (f) Staff. East. therapeutics and teaching. 225 bed hospital in beautiful resort area. $4800. (HM-2817) (g) Chief. East. 280 bed hospital within commuting distance of N.Y. City. $6500. (HM-3053) (h) Assistant Director of Dietetics. Middle West. Unusually fine opening. Will be responsible for supervision of therapeutics, house diets, pantries, formula room, etc. 500 bed hospital. Capable of taking full charge of dietary dept. at times. $7000 up (HM-2968) (i) Administrative. Middle West. 400 bed teaching institution in well known resort area. $5400. (HM-2977).
NOTE: We can secure for you the position you want in the hospital field, in the locality you prefer. Write for an application today—a postcard will do. ALL NEGOTIATIONS STRICTLY CONFIDENTIAL.

POSITIONS OPEN

A.S.C.P. REGISTERED MEDICAL TECHNOLOGIST required immediately for an 85-bed, rural J.C.A.H. Approved General Hospital, situated midway between Pittsburgh and Harrisburg; famous resort area. Salary Open. Apply MEMORIAL HOSPITAL OF BEDFORD COUNTY, Bedford, Pennsylvania, or Telephone the Director, Bedford 655.

SUPERVISOR — Operating Room, also openings for General Duty Registered Nurse, 85-bed Hospital, fully approved by Joint Commission Western Pennsylvania, situated in famous Resort Area, attractive salary, liberal personnel policies. Apply to Mrs. E. Thompson, R.N., B.S., Director of Nursing, MEMORIAL HOSPITAL OF BEDFORD COUNTY, Bedford, Pennsylvania.

NURSING SCHOOL DIRECTOR

Excellent opportunity in California with Diploma Nursing School for experienced educator. Must be R.N. with educational background and experience in school administration or supervision. Send resume and Salary requirements to: RESEARCH & EDUCATION CORPORATION, 703 Market Street, San Francisco, Calif.

MISCELLANEOUS

BRONZE AND ALUMINUM PLAQUES. Name Plates and Donors Tablets. For lowest prices, write for free pamphlet.
ARCHITECTURAL BRONZE & ALUMINUM Corp., 3638 W. Oakton St., Skokie, Ill.

OUR 63rd YEAR

WOODWARD MEDICAL PERSONNEL BUREAU
FORMERLY AZNOES
185 N. Wabash—Chicago, Ill.

Founders of the counseling service to the medical profession, serving medicine with distinction over half a century

ADMINISTRATORS: (a) Med Dir, medium size TBc hsp; to $20,000 1st yr; MW. (b) 350 bd, genl hsp; req's degree & minimum 5 yrs exper; excl sal; NY State. (c) 100 bed, JCAH, genl hsp, completg 75 bd addition; $10-12,500; So. (d) 200 bd, genl hsp; req's ACHA or equiv; to $15.000; Calif. (e) Fairly lge, genl hsp. now building; $15-18,000; MidE. (f) 250 bds in plannng stage; employ now; $20,000; Calif. (g) Report directly to Med Dir; very lge, fully-apprvd hsp, affild w/3 univ; $12,000,000 bldg prog; about $13,000; East. (h) Asst; pref min 5 yrs exp w/MS, Hsp. Adm; JCAH, vol, genl hsp expng to 500 beds; coll twn 100,000; SW. (i) Asst; fully-apprvd, JCAH, 250 bd, genl hsp; duties include wk above ordinary routines; $7-8,000; MIDEast.

ADMINISTRATIVE POSTS: (j) Asst Bus Mgr; good Acctng bckgrnd; 450 bd, fully-apprvd vol, genl hsp; $4-5,000 yr; E. (k) Compt; 100 bd, JCAH hsp, estd 1894; $7-8,000; lge univ city, E. (l) Personnel Dir; 300 bd, genl, vol. JCAH hsp, about 450 emplys; lge city, MW.

POSITIONS WANTED

ADMINISTRATOR: B.S. (Hosp Adm); 10 yrs, adm, genl, vol hsp during which time has supervised 3 expansions (now 160 bds) plus construction of nurses' home; early 40's.

ASSISTANT ADMINISTRATOR: MHA, University of Minn; Asst Adm, 220 bds, 2 yrs; adm sml hsp, 2 yrs; nominee ACHA; early 30's.

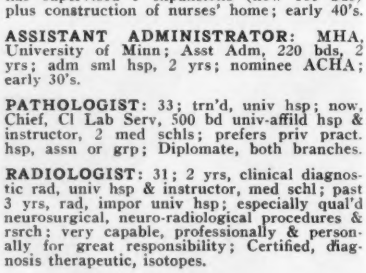
PATHOLOGIST: 33; trn'd, univ hsp; now, Chief, Cl Lab Serv, 500 bd univ-affild hsp & instructor, 2 med schls; prefers priv pract. hsp, assn or grp; Diplomate, both branches.

RADIOLOGIST: 31; 2 yrs, clinical diagnostic rad, univ hsp & instructor, med schl; past 3 yrs, rad, impor univ hsp; especially qual'd neurosurgical, neuro-radiological procedures & rsrch; very capable, professionally & personally for great responsibility; Certified, diagnosis therapeutic, isotopes.

SCHOOLS

TRAINING FOR INSTITUTIONAL HOUSEKEEPERS. Two weeks intensive classroom followed by three months of supervised clinical training. Classes start September 28, applications accepted until September 1. For details, write: Vocational Director, AUSTIN VOCATIONAL SCHOOL, Austin, Minnesota.

(See Also Page 125)



Besides your salary as dietitian you get to keep all the boxtops and free coupons.

Management Aids

725 — Electricity and Electronics

■ A METHOD of using a standard manual or electric or proportional-spacing typewriter for special impressions needed in the fields of electronics and electricity is the subject of a new booklet just published by Remington Rand. It is the first in a series designed to show how any of 18 different fields can make profitable use of interchangeable typewriter type.

726 — Analysis of Arsenic

■ Spectrophotometric techniques for the analysis of arsenic in biological fluids are explained in a new Beckman Application data sheet. The simple clinical procedures described for determining arsenic are based on absorbance measurements with ultraviolet and visible range spectrophotometers.

727 — Office Copying Machine Guide

■ PREPARED as a factual guide to selection of office copying machines, published by Copease Corp., analyzes the principal reasons for the growing use of copying equipment in business offices. Explains in detail the various types copying machines available on the market.

728 — Filing Equipment

■ PLAN HOLD CORP. has issued a catalog on vertical and roll filing systems. The files described are of special interest to engineers, designers and architects. The files are efficient, space-saving way to file and protect plans, blue prints, drawings and other large sheets as well as plates, negatives and stencils.

729 — Office Furniture

■ THE Borroughs Manufacturing Co. has published a price list of its entire line of metal office furniture. The list is comprised of bookcases, cabinets, library shelving, wrap racks and check racks.

730 — Radiation Badge Service

■ A BROCHURE describing the radiation monitoring services of R. S. Landauer, Jr. and Co. The material covers the complete film badge service; the different types of badges and the evaluation and control methods used by the company. Included is a description of the company's new method of reporting exposure for 1-week periods along with cumulative totals for the preceding 13-week and calendar year to date.

731 — Detergent and Equipment Catalog

■ A SECTIONALIZED loose leaf type catalog has been issued by Klenzade Products, Inc. The volume represents one of the most complete and comprehensive purchasing files of detergents, sanitizers, methods and applicating equipment available to hospitals. Special emphasis is given to products and methods to combat "staph".

732 — Lighting Fixtures

■ THIS BOOKLET describes how specially engineered and manufactured fixtures carried out the lighting concepts of architects and lighting consultants at eight recent lighting installations. All descriptions of the lighting installations are illustrated with photographs and detail sketches of the fixtures. The booklet also contains catalog illustrations and details of standardized fixtures, available for interior, exterior and specialized lighting requirements. Copies are available from The Simes Co.

733 — A Guide to Fire Extinguishers

■ A NEW SIX-PAGE folder has been issued by Ansul Chemical Co. The folder contains a table which compares characteristics of various types of fire extinguishers. A bar graph on the last page shows the comparative effectiveness of extinguishing agents according to Underwriters' Laboratory ratings.

734 — Space Filter

■ A NEW space filter, designed with high dust carrying capacity and replaceable filter elements is described in a bulletin now available from Mine Safety Appliances Co. The filter is particularly suitable for applications in pharmaceutical, photographic and precision instrument manufacturing, food processing, research laboratories, hospitals, glove boxes and so forth.

735 — Case-Work Catalog and Planning Book

■ TECHNICAL FURNITURE, INC., has just published an 82 page catalog and planning book describing their wood casework. The book shows equipment, floor plans and elevations for laboratories, pharmacies, operating rooms, nurseries, patient and utility rooms, offices and suites. Those interested will find this book a useful guide in providing function arrangements of specialized furniture and equipment.

736 — Hospital China

■ A 12-PAGE full-color leaflet is available from Syracuse China, with 16 illustrations of the Hospitality Group. Included also is an account of how this particular group of stock patterns, came into being. The hospitality group is designed to meet the needs of every food service operation. ■

From the Consultant's Notebook

by **E. M. Bluestone, M.D.**

Competition ends at the bedside. Every patient must be given the feeling that the best has been selected well in advance for his special benefit.

•

Most people go thru life as if they were aware of the number of potential enemies that surround them but none with more justice than those who happen to be sick.

•

All accidents are characterized by an element of suddenness but not of complete unexpectedness. Where injury due to external violence results, the course can almost always be foreseen and prevented, in spite of its ubiquity. The possible collision between trifling cause and serious effect should never leave our minds in hospital work for, if it does, we too, as responsible executives, are traumatized.

•

The biological dictum that "acquired characteristics are not transmitted" is a reminder and a warning that nature has not provided for the transmission of knowledge by way of the blood-stream.

•

Hospital problems are "animate" or "inanimate." The former are more heart-breaking than the latter —and you know why!

•

When penicillin was discovered, or the microscope invented, we should have addressed ourselves at once to the social consequences of such revolutionary advances and given more thought to the logistics of living under their influence.

•

"Time is money", but every hospital executive knows that space is money too. The source of such money is the thing wherewith to catch the conscience of the public—which is king!

•

It isn't true that "dead men tell no tales." Try this maxim out in your post-mortem room!

•

Some examples of linguistic malpractice:

The premature nurse
The alcoholic clinic
The chronic hospital
The pathological conference
The suicidal ward
The cancer congress
The malignant patient
The acute abdomen
The diabetic association
Superficial therapy
The gross pathologist
The microscopic pathologist
The narcotic man
The vice director
The headworker of the department
The cardiac nurse
The psychiatric resident
The pathological interne
The skin man
The mechanical dentist
Taking an x-ray

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TOWELS

extra-wide super-selvages
provide tensile strength to meet the most exacting requirements!

Your linen source can supply you with all these fine Dundee products: HUCK AND TURKISH TOWELS; BATH MATS *(both plain and name woven)* ▪ CABINET TOWELING ▪ FLANNELETTES ▪ DIAPERS ▪ DAMASK TABLE TOPS AND NAPKINS ▪ CORDED NAPKINS ▪ DUNFAST ALL-PURPOSE FABRICS

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